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Abstract

The Conservation and Environmental Science Center for Southern New Jersey (CESC), as part of a project sponsored under Title III of the Elementary and Secondary Education Act of 1965, has developed this booklet for administrators and teachers to aid them in the development of a resident environmental education program. This booklet contains topics on past, present, and future history of CESC; the role of the administrator and parents; guide to the resident center; the teacher's role in making environmental literacy a part of the on-going curriculum; and evaluating effectiveness. Program objectives, procedures for informing parents, sample letters to be utilized, information forms to be utilized, suggestions for new releases, suggested activities, typical schedules and assignments, sample menues, and techniques for evaluating behavioral objectives are presented. Related documents are RC 003 789, RC 003 790, RC 003 792. (SW)

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Local Education Agency

GUIDEBOOK

for

RESIDENT ENVIRONMENTAL EDUCATION PROGRAMS

PREPARED BY:

THE CONSERVATION and ENVIRONMENTAL SCIENCE CENTER FOR SOUTHERN NEW JERSEY

RC003788

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$1.50

TO ALL PARTICIPATING SCHOOL DISTRICTS

The Conservation and Environmental Science Center for Southern New Jersey (*CESC*) extends a warm welcome to you as a participating school district in the resident component of this project, sponsored under Title III, of the Elementary and Secondary Act, 1965.

This booklet, for administrators and teachers was compiled as a guide to help you develop your resident environmental education program.

Please feel free to call upon us at any time for help or assistance in the development of your school district's environmental education programs.

The CESC staff coordinates, assists and guides environmental education resident programs, and serve as consultants for on-school site environmental education programs, etc.

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1969

TABLE OF CONTENTS

SECTION I - CESC - PAST, PRESENT AND FUTURE

The Evolution of a Title III, ESEA Project
The CESC - A Progress Report
Whitesbog - '71 - Proposed CESC Complex

SECTION II - THE ROLE OF THE ADMINISTRATOR AND PARENTS

Policies Affecting the Utilization of the CESC
Objectives of Resident Environmental Education Programs
Procedure for Informing Parents about Resident Environmental Education Program
Sample Letter to Parents
Health Information
Clothing Information
Teacher Assistant Program for High School Juniors and Seniors
Disseminating Information about Environmental Education Programs
Suggestions on News Releases
Sample News Releases
Local Education Agency Check List

SECTION III - GUIDE TO THE RESIDENT CENTER

The Methodist Conference Center
Map and Lodging Plan

SECTION IV - THE TEACHER'S ROLE --- MAKING ENVIRONMENTAL LITERACY A PART OF THE ON-GOING CURRICULUM

Developing a Resident Environmental Education Program
Some Suggested Activities
Resident Environmental Education Program Groups
Objectives - Bridgeton Residency
Sample Schedule (Clayton)
Sample - Staff Assignments to Activity Periods (Clayton)
Dining Room Procedure
Guide for Cruisers
Sample of Week's Menu
Exploration of the Center

SECTION V - EVALUATING EFFECTIVENESS

Evaluating Behavioral Objectives
Evaluation Data Collection Sheet
Objectives Measured (Graphs)
Evaluation of Environmental Education Programs
Sample Pages - Evaluation Instrument
Sociometric Techniques for Evaluation

THE EVOLUTION OF A TITLE III, ESEA PROJECT

Environmental Education anywhere seeks to create a concern for all environments that leads to a commitment to preserve or develop optimum environments and to improve less desirable environments.

In addition, Environmental Education concerns itself with the learning environment; it seeks a commitment by educators to develop and utilize situations and conditions where learning can flourish.

The need for an Environmental Education Center was demonstrated after extensive studies were conducted with school districts. The studies revealed the following educational needs:

1. The need to institute conservation and environmental education programs in the school districts located in the southern portion of the state.

2. The need to provide a meaningful program with a broad range in the environmental sciences for college undergraduates.

3. The need to develop instructional leadership for programs in conservation and environmental education.

4. The need to develop a resident environmental education center for Southern New Jersey.

The initial thrust of the project includes:

1. Curriculum development of environmental sciences:

   (a) in-service training for elementary and secondary teachers
   (b) on-school site programs in environmental education
   (c) resident environmental education programs

2. Development of a permanent Conservation and Environmental Science Center:

   (a) environmental science and research laboratories for the graduate and the undergraduate levels
   (b) resident environmental education programs for children and adults

THE CESC - A PROGRESS REPORT

The Conservation and Environmental Science Center for Southern New Jersey was proposed by Dr. V. Eugene Vivian, science department chairman at Glassboro State College, as an educational program linking the College with a number of school districts in Southern New Jersey.

Early in 1966, Dr. Vivian, working with the Curriculum Development Council at the College, organized a consortium of 18 school districts. A planning grant proposal, authored by Dr. Vivian, was submitted to the U.S. Office of Education through the Glassboro Public School District as the sponsoring agent

The U.S.O.E. approved the Planning Grant for $39,800 in September, 1966 under Title III, ESEA. During the next 16 months, the Atlantic City, Bridgeton, Deptford, Glassboro, Salem and Willingboro school districts each sent one class and its teachers and aides to the resident environmental education center temporarily located in modern, winterized buildings at the Methodist Conference Center at Mt. Misery in Burlington County.

During the planning stage, Glassboro State College utilized CESC's program. Three practicum groups, (junior - year students with various majors in teacher education), participated in a week-long environmental education program. Also involved were 25 Experienced Teacher Fellows in the masters program in Outdoor Education and Conservation jointly sponsored by Glassboro, Montclair and Trenton State Colleges with a grant from Title V of the Higher Education Act of 1965.

Planning conferences for Environmental Education, teacher in-service and administrative workshops were conducted during the period from September-1966 to December-1967. Dr. Vivian, the project's sole staff member during planning, was released from most administrative and teaching responsibilities by the College in order to direct the development of the Conservation and Environmental Science Center for Southern New Jersey, (CESC).

In 1967, the New Jersey Department of Conservation and Economic Development joined in the venture of establishing a permanent environmental education center for Southern New Jersey. Commissioner Robert A. Roe enthusiastically endorsed the CESC's objectives and broadened the project's scope by encouraging an amalgamation of industry, education and state agencies. Commissioner Roe approved his department's offer of a portion of a 2,900 acre tract at Whitesbog, just five miles from CESC's temporary location at Mt. Misery.

Commissioner Roe, working with Dr. Vivian and architect - conservationist Malcolm B. Wells, projected a multi-use complex at Whitesbog, located in the heart of the New Jersey Pine Barrens. Wells' plans call for a complex of buildings in true ecological harmony with the land.

A permanent location at Whitesbog would permit CESC to expand and enlarge its programs in Environmental Education, sponsor related projects, and offer facilities for environmental research projects. Environmental research will provide for a "Conservation and Environmental Renewal and Development Program" for the Pine Barrens Complex-the largest single ecological region in New Jersey. Funds for construction of the CESC complex will be sought from private and public sources, hopefully from many New Jersey Industries which would be served by the Conservation and Environmental Science Center.

On February 5, 1968 approval for an operational budget was received by the Glassboro School District, the sponsoring agency for the CESC consortium which then numbered 47 school districts and Glassboro State College. CESC is funded under Title III, ESEA, by the U.S. Office of Education. Since operational funds were received the consortium has grown to 55 school districts. Currently there is a waiting list of several more districts.

Full time operation of CESC began March 15, 1968 with two school classes in a resident environmental education program at Mt. Misery. Title III funding enabled the project to employ an associate director, Emory J. Kiess, and a staff of four teachers to serve as school consultants. The initial staff members-Fred J. Mason, Frank G. Patterson, John D. Raffo and Miss Lois M. Schoeck were joined by John E. Hiros in September, 1968. Working with CESC on a part - time basis while earning their master's degree in Outdoor Education and Conservation are Prospective Teacher Fellows: Miss Karen M. Ambry and John Y. Jackson.

A CESC College-Interne Program has been developed. To date, students from Tufts University, Elmira College and Glassboro State College are enrolled in the program whereby they spend several weeks or a day each week during the semester participating in resident environmental education programs. The success of CESC High School Aides Program has been testified to by the increasing number of area high schools requesting admissions to this facet of CESC's program.

Environmental Instruction Plans developed by the CESC staff are being disseminated. Environmental education clearly requires the participation of all disciplines in the curriculum. These plans, which will eventually encompass the broad spectrum of curricular concerns, carry out the CESC formula of "indoor-outdoor-indoor" lessons in art, mathematics, science, social studies or language arts. In keeping with CESC's philosophy, these Environmental Instruction Plans guide teachers to use the out-of-doors for that which can best be learned there. The classroom is used to initiate, supplement and reinforce observations and learnings about the environment.

The entire staff participates in resident, day-trip and on-site environmental education programs. Evaluation of achievements and effectiveness is regularly conducted. CESC's director, associate director, one staff member and the dissemination consultant all provided considerable effort in the creation, development and production of "A Systems Analysis Approach for Self-Evaluation" for Environmental Education projects.

LANDMARK DATES IN CESC's HISTORY WILL ALSO SHOW:

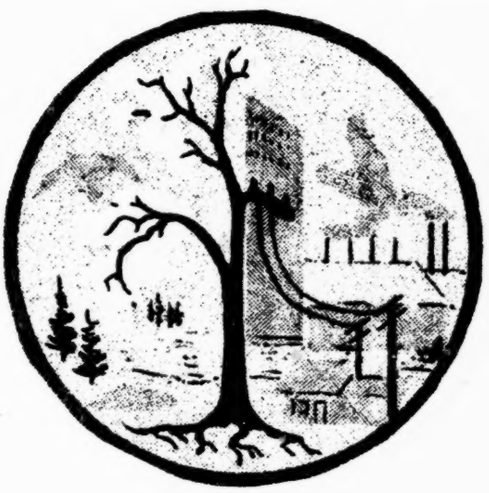
September 11, 1968 - CESC became incorporated in order to facilitate the reception of funds from a variety of sources for educational programs of several consortiums and for construction of a permanent environmental education complex at Whitesbog.

February 1, 1969 - Notification: Continuation Grant under Title III ESEA, from the New Jersey State Department of Education.

February 4, 1969 - Commissioner Robert A. Roe signed an initial lease for 67 acres at Whitesbog to CESC, Inc. with Board of Trustees President, Albion G. Hart, and Executive Director, V. Eugene Vivian.

February 4, 1969 - First college course begun at CESC. A practicum course for the Prospective Teachers Fellowship Program offered by Glassboro State College with Dr. Vivian as instructor.

June 30 - August 8, 1969 - First summer program conducted at Whitesbog. "Exploratory Program in Decentralized Camping for Children of Migrant Laborers," developed by Associate Director Emory J. Kiess and funded under Title I, ESEA, through Mr. Westry Horne, Director of the N.J. Education Program for Seasonal and Migrant Families.



WHAT IS A DEFINITION OF ENVIRONMENTAL EDUCATION?

Environmental Education anywhere seeks to create a concern for all environments that leads to a commitment to preserve or develop optimum environments and to improve less desirable environments.

In addition, Environmental Education concerns itself with the learning environment; it seeks a commitment by educators to develop and utilize situations and conditions where learning can flourish.

STATISTICAL SUMMARY OF *CESC* ACTIVITIES WITH PARTICIPATING LEA'S

March 15 - June 16, 1968 September 16, 1968 - February 8, 1969

I - On-Site Programs - are implemented with scheduled visits by CESC personnel to participating school districts to develop programs (K-12 grade), in the classroom, on school grounds and in areas adjacent to the school property. The emphasis is placed on training of the school district teachers rather than on direct classroom teaching by CESC personnel, although the latter may take place as demonstrations.

- 47 individual schools have initiated on-site activity.
- 740 children have been involved in demonstration lessons.
- 67 planning sessions have been conducted by project staff.
- 17 LEA workshop sessions have been conducted.
- 174 LEA teachers have been involved in demonstrations and workshop sessions.
- 53 high school juniors and seniors have participated as teacher assistants.
- 15 other para-professionals have participated.
- 25 demonstrations with students have been conducted.

II - Day-Trip Environmental Education Programs - are designed for classes having a special purpose for visiting the Pine Barrens. Such purposes are: (1) witnessing seasonal agricultural activities, (2) Revisits of classes to make seasonal or chronological contrasts in areas previously studied, (3) observing some unique event.

Casual visits by classes are not encouraged; rather, the field trip should reflect an ongoing curricular concern which requires a visit to a particular location.

- 4 individual schools have initiated activity.
- 289 children have participated in day trips.
- 8 planning sessions have been conducted.
- 14 LEA teachers have been involved in Day Trip Program.
- 6 high school juniors and seniors served as teacher assistants.
- 1 other para-professional has been involved.

III - Resident Environmental Education Programs - are conducted at the project center using leased facilities of the Methodist Conference Center at "Mount Misery" near Browns Mills. This location was chosen because of the uniqueness of the Pine Barrens, both historically and ecologically. The resident program is a significant aspect of the project because it is believed that many concepts can be better learned in a resident atmosphere.

The two outstanding features of an R.E.E.P. are: (1) the development of a conservation ethic while living in natural surroundings, (2) the availability of real-life social experiences which "improve" teacher-student and student-student relationship.

These gains have been experienced and reported by children in upper elementary grades, college youth and adults participating in the project.

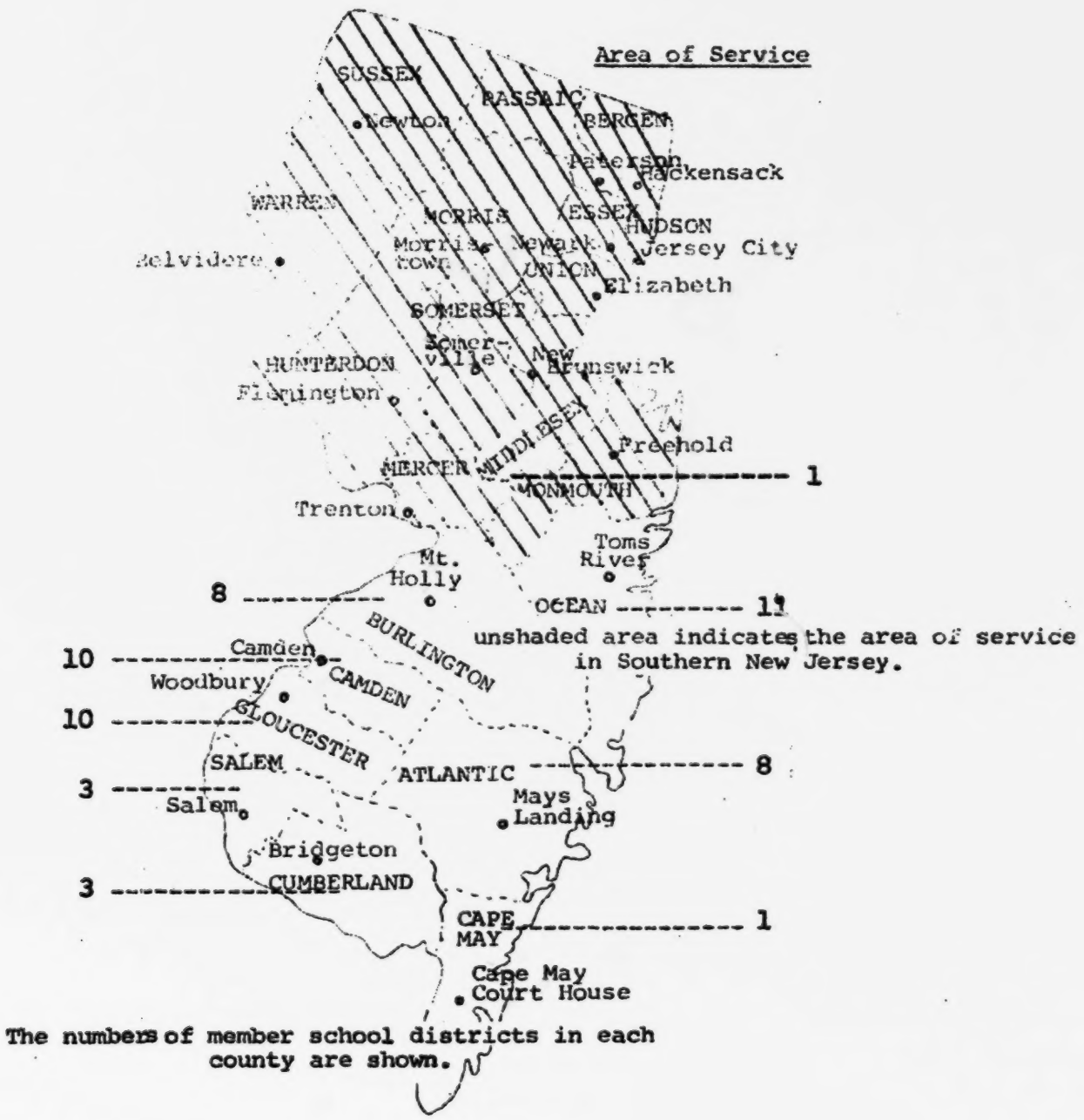
- 31 district have participated.
- 42 individual schools have been involved.
- 59 classes have been included in the Resident Environmental Education Program.
-1322 students were served.
- 117 planning visits have been conducted by project staff.
- 101 LEA staff members have participated.
- 79 high school juniors and seniors have been involved as teacher assistants.
- 36 para-professionals have been involved.
-1416 small group (7-12 children) activity sessions have been conducted.

IV - General Contributions of CESC Staff to the Project's Development - In curriculum development, CESC personnel are working with teachers in the school district for the purpose of using environmental education programs within existing curricula. In-service programs, held either in the school district or at the resident center, are a focal point of curriculum development. These in-service workshops include direct experiences with concepts in conservation and environmental science and the development and demonstration of teaching techniques and materials.

- 2 county wide workshops have been completed.
- 10 districts (approximately) were represented in each county.
- 3 planning sessions were held for each workshop.
- 47 teachers participated.
- 24 instructional sessions were conducted.
- 8 Environmental Instruction Plans completed.
- 5 Environmental Instruction Plans in process.
- 2nd edition of Teacher's Workshop Handbook for Resident Programs.

V - CESC Efforts Related to I, II, III & IV:

- 139 administrators and supervisors have been involved in planning and orientation sessions.
- 15 Boards of Education have received orientation sessions.
- 32 parent orientation sessions have been held.
- 26 other groups, such as civic, municipal and professional, were rendered services, such as guest speakers and general orientation about environmental education.



THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

WHITESBOG - '71 - PROPOSED CESC COMPLEX

Whitesbog, located near Browns Mills, is the name of the former J.J. White Company village, purchased in December, 1966, as part of New Jersey's Green Acres Land Acquisition Renewal Program. Whitesbog village, located on the outskirts of lands famous for cranberry and blueberry culture, has given its name to the surrounding 2,700 acres purchased with Green Acres funds. The tract has been annexed to Lebanon State Forest.

The village presently consists of 29 buildings, including processing sheds, barrel factory and warehouse, workers' cottages, homesteads, garages, and a former general store. The tract contains more than 600 acres of cranberry bogs which are periodically flooded by canals and sluice gates connected to several reservoirs fed by the Pole Bridge branch and related tributaries of the Rancocas Creek. More than 100 acres of blueberry fields are also located at Whitesbog.

Historically, portions of the land at Whitesbog have belonged to one family since 1857, when John A. Fenwick, purchased 108 acres of bog land. His son-in-law, Joseph J. White purchased more land, built the canals, sluice gates and reservoirs and created Whitesbog. In 1875, White founded the company bearing his name, for the production of cranberries.

White's eldest daughter, Elizabeth C. White, gained national and world fame because of her work in the development of the large size cultivated blueberries. In 1911, inspired by a paper on blueberries written by the late Dr. F.M. Coville, of the U.S. Department of Agriculture, Miss White began intensive research efforts at Whitesbog. Working with Dr. Coville and with local natives, often called "Pineys," she sought out hundreds of native blueberry plants to cultivate in the sandy soil of her father's cranberry farm. In 1916, the first crop of specially bred and cultivated blueberries went to market and created an agricultural sensation. Miss White and Dr. Coville continued their association and research until Dr. Coville's death in 1937. Their joint efforts greatly improved the economy of the pinelands and plants shipped from Whitesbog did the same for similar areas throughout the United States and foreign countries.

Dr. Thomas Darlington, Miss White's nephew and the present-day owner of the company, is developing a new tract for more efficient harvesting of cranberries on the south side of route #70, some two miles from Whitesbog. Dr. Darlington has designed and developed a cranberry harvesting machine. The White Company is leasing the use of the cranberry and blueberry fields and many of the buildings at Whitesbog, during this changeover period, until 1971.

Whitesbog - '71 - Proposed CESC Complex

Mr. Isaiah Haines, the vice-president and general manager, has been associated with the company for 56 years, and serves as a resource person for school and adult groups visitng CESC's temporary center at Mt. Misery.

Commissioner Robert A. Roe, of the New Jersey Department of Conservation and Economic Development, and his staff, have endorsed leasing to CESC a portion of the Whitesbog acreage as a site for a model center for environmental studies. A permanent location at Whitesbog would permit CESC to expand and enlarge its programs in Environmental Education, sponsor related projects and offer facilities for environmental research projects. Environmental research will provide for a "Conservation and Environmental Renewal and Development Program" for the Pine Barrens Complex--the largest single ecological region in New Jersey.

The Pine Barrens, with its low population density, abundant water resources and priceless unique ecological heritage is New Jersey's greatest opportunity for environmental planning to meet the population and land use challenge of the future. Funds for construction of the CESC complex will be sought from private and public sources, and hopefully from many New Jersey industries which would be served by the Conservation and Environmental Science Center.

The new buildings will be erected in the vicinity of an existing air strip and reservoir. This complex will provide a dining hall, library, dormitories, infirmary and office buildings, as well as study and research laboratories. The projected buildings have been designed by the architect-conservationist, Malcolm B. Wells, of Cherry Hill. His dynamic designs demonstrate an ecological harmony with the landscape at Whitesbog. The unique construction is projected to meet the needs of the 21st century, and suggest a revolutionary concept for future architecture.

Whitesbog - '71 - Proposed CESC Complex

WHAT TO SEE AT WHITESBOG

Cranberry bogs and sluice gates
Reservoirs and feeder canals
"Suningive," Miss Elizabeth C. White's home at Whitesbog
Whitesbog's village street and workers' houses
Workers' villages at "Rome" and Florence" areas
Cedar swamps and lowlands
Upland pine covered areas, Savanna lands
Cranberry and blueberry packing sheds (with permission)
Blueberry harvesting in season, during July and August
Cranberry harvesting in season, September 20 to November 1

! PRECAUTIONS !

The rules of availability and access to Lebanon State Forest permit hunting and fishing on many parts of the Whitesbog tract in appropriate seasons.

Children's groups should not enter the Whitesbog tract unless supervised by a member of the Conservation and Environmental Science Center staff and teachers from their own district.

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

Policies Affecting the Utilization of the
Conservation and Environmental Science Center
for Elementary and Secondary Programs in Environmental Education

1. Any educational agency in New Jersey or vicinity may apply for educational services from the Conservation and Environmental Science Center, *(CESC)*, established as an ESEA Title III project, funded to the school district of Glassboro and school districts in the eight southern counties of New Jersey: Burlington, Atlantic, Camden, Cape May, Cumberland, Gloucester, Ocean and Salem.

2. School districts within the area of funding for Title III will receive educational services without charge during the first year of funding. During the second and third year of funding, these same districts will be requested to pay some of the costs for educational services.

3. Educational agencies outside the area of Title III funding for Glassboro and participating school districts will be required to pay for complete production costs of educational services rendered.

4. Resident programs will be provided for all educational agencies after the following conditions are met.

    a. A letter from the superintendent stating his desire for participation in a resident program by his district, and a statement of affirmative action or a resolution by the Board of Education of that district, indicating their approval.

    b. A signed agreement in which the Superintendent guarantees the performance of the following:

        (1) Transportation of children and personnel to and from the resident Center.
        (2) A male and female teacher for each class of children.
        (3) The services of the school nurse or suitable registered nurse for the resident program.

    c. Since Title III projects are operated on a three-year budget with decreasing allotments for each succeeding year, resident programs will be provided for educational agencies (school districts) within the area of application as follows:

        (1) During the second year of operation, any district involved in residency will be required to pay 35% of all costs. The current per capita rate per week is $40. This rate includes room, board, instructional and operational components.*

(2) During the third year of operation, any district involved in residency will be required to pay 70% of all costs.*

5. Educational agencies outside the area of Title III funding will be required to pay a fee of $40 per student per week of residency.*

6. On-Site Programs - (Within the School District or on School Grounds)

For Agencies or Districts Within the Area of Funding for Title III

CESC staff will provide assistance with on-site programs in Environmental Education for districts within the area of application by operating programs with children, or operating teacher workshops or training sessions.

Under the present rate of funding, from 5 to 15 "consultant days" will be provided by *CESC* for each of such participating school districts. The number of "consultant days" will be influenced by the number of teachers in each agency or district.

If more intensive visitation is required or desired by an agency or district, consultants will be provided at a charge of $75 per consultant per day. A consultant day may be described as availability of the consultant at the district from 9:30 a.m. until 3:30 p.m. or an equivalent amount of time.

A Sample Fee Chart

Districts with:	Consultant days at $75 per day per consultant
200 teachers	27.....$2,050
126-199 teachers	20.....$1,500
50-125 teachers	14.....$1,050
20-49 teachers	7.....$ 525
Fewer than: 20 teachers	4.....$ 300

For Agencies or Districts Outside the Area of Funding for Title III

Similar on-site consultant services may be provided for educational agencies or school districts not in the area of funding at the rate of $75 per consultant per day.

* *It is suggested that educational agencies defray the operational and instructional component costs of the resident program ($18.50 per week per student) from their own source of funding, and that they request each participating child or student assume the room and board component ($21.50 per week per student).*

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

OBJECTIVES OF RESIDENT ENVIRONMENTAL EDUCATION PROGRAMS

The objectives listed represent highly achievable goals that are uniquely successful in a resident environmental education experience. Limited by the four and one-half days at the CESC, a teacher should realistically select those objectives in each category, which meet the needs of the individual child and the entire class.

SOCIAL

1. Children gain in ability to communicate with their teachers.

2. Children learn to understand their classmates better.

3. Children like more of their classmates after a resident education experience.

4. Children perceive their teachers more as understanding adults.

5. Children evaluate their own self-images.

6. Children increase their concern for the welfare of others.

7. Children have permanently changed attitudes about their teachers after a resident experience.

8. Children increase their perception of the values of commonly employed social courtesies.

9. Children have permanently changed attitudes about their classmates after a resident experience.

INTELLECTUAL SKILLS

1. Children increase their skills for detailed observation.
2. Children increase their ability and predilection to raise meaningful questions.
3. Children increase in ability to interpret data.
4. Children increase in ability to evaluate experiences.
5. Children gain in ability to formulate hypotheses.
6. Children gain in ability to make inferences.
7. Children gain in ability to develop procedures for direct investigations.

CONSERVATION ATTITUDES

1. Children gain in appreciation of the relation of natural resources to man's welfare.
2. Children broaden or expand their resource use ethic.
3. Children develop attitudes or feelings which will influence their use of leisure time activities.
4. Children share experiences with an apparently desirable group of persons whose values may be other than their own.
5. Children undergo a series of novel experiences (novel with respect to their background).

TEACHER CHANGES

1. Teachers gain increased awareness of the needs of individual children.
2. Teachers gain increased awareness of children's relationship to their classmates.
3. Teachers make gains in their own knowledge of the teacher-learning process.
4. Teachers increase their perception of the real values held by their students.
5. Teachers increase in their ability to communicate with children.

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

PROCEDURE FOR INFORMING PARENTS
about
RESIDENT ENVIRONMENTAL EDUCATION PROGRAM

As soon as a school district has received board approval for participation in a residential experience at the Conservation and Environmental Science Center and when a class, or classes, have been designated - it is desirable to inform the parents as soon as convenient. The following announcement and program is illustrative of what may be done to meet this need.

Environmental Education Meeting
For Parents and Pupils

(Day) *(Date)* *(Time)*

John Q. Public School

7:30 P.M. - General Meeting of parents, teachers and pupils - All Purpose Room

8:00 P.M. -*Slides of Environmental Education experiences for parents - All Purpose Room

*Film of Environmental Education for pupils - Audio-Visual Room

8:20P.M. -*Groups change. Parents go to Audio-Visual Room see film and pupils come to All Purpose Room to see the slides.

8:45P.M. - Refreshments - All Purpose Room

*denotes portion of meeting involving CESC staff member or speaker

SAMPLE LETTER TO PARENTS

Dear Parents:

This year _____School has the opportunity to participate in a resident environmental education program. _____class is planning to attend the Conservation and Environmental Science Center for Southern New Jersey during the week of _____.

The Conservation and Environmental Center is located at Mount Misery, near Browns Mills. The children will experience community living. Boys and girls will be housed separately in fully equipped modern buildings. They will eat together in a central dining room and study together in the unique area of the Pine Barrens.

The benefits of an environmental education program are many and have lasting value for children. We are excited about this program and are anxious for all of our children to participate. Since the week at the resident center will represent the climax of many weeks of classroom preparation and planning we sincerely hope that you will give your child permission to participate and profit from this environmental education experience.

As soon as possible, we will need a signed permission slip for your child. This form is attached. We will also need to have a completed medical form, which is also attached.

Please feel free to contact your child's teacher if you desire further information.

Sincerely yours,

_____
Principal

PARENT CONSENT FORM

_____has my permission to attend the
Child's Name
Resident Environmental Education Program at the Conservation and Environmental Science Center, during the week of _____ to_____.

_____ _____
Date Parent's Signature

The above form or a locally approved field trip form will suffice.

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

HEALTH INFORMATION

Name of Student_____ Age_____

Address_____ Tel._____

Name of Parent_____

Address_____ Tel._____

Business Address_____ Tel._____

Name of Family Doctor_____ Tel._____

1. Has student had polio vaccine?_____ Booster?_____

   Date of most recent tetanus shot_____
   If a tetanus shot has not been administered in the last three years, student should have one.

2. List food allergies, if any_____

3. Is student allergic to any medication?_____
   A. Sulfa_____ B. Penicillin_____ C. Aspirin_____ D. Others_____
   _____

4. Has student been exposed to any communicable diseases in the past 21 days?_____

5. Do you know of any health factor that makes it advisable for student to follow a limited program of physical activity? If so, please describe and state limitations_____
   _____
   _____
   A. Recent surgery or illness?_____ C. Weak ankles or arches?_____
   B. Bones recently broken?_____ D. Other physical condition?_____
   _____

6. In order to protect student from possible embarrassment, this information is needed: A. Does student wet the bed at night?_____
   B. Does student walk in sleep?_____
   C. Are there other factors which may affect the care of student? *(Please explain)*_____
   _____

7. Nervous habits? _____ *(Please explain)*_____

8. Particular fears? _____ *(Please explain)*_____

This information requested is required for each student participating in a resident environmental education program at CESC. The school nurse will inspect the children the morning they leave for the resident center.

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

CLOTHING INFORMATION

Comfortable, practical clothes are recommended. Shoes should be sturdy. Loafers, sneakers, etc., are useful but good hiking shoes will be necessary for hiking. Students should leave all jewelry and other expensive items at home. Radios, TV's and record players are not permitted. Students should have name tags on all belongings or have their clothing marked. The school cannot be responsible for lost articles.

Starred items are needed in winter or when cold weather is anticipated. If any of these items are difficult for a child to obtain, he or she should report this to the teacher immediately.

The quantities listed below represent the minimum number. It is suggested that this sheet be placed at the top of the student's suitcase to serve as a check list during at-home and at-center packing times.

Essentials

Item:	At-Home	At-Center
Sleeping bag or 3 blankets	_____	_____
Pillow	_____	_____
2 sheets (single) and 1 pillow case	_____	_____
2 bath towels	_____	_____
1 wash cloth	_____	_____
Tooth brush, tooth paste and soap	_____	_____
Comb, brush, nail file	_____	_____
1 pair pajamas	_____	_____
Bathrobe and slippers	_____	_____
4 pair underpants	_____	_____
4 pair undershirts	_____	_____
4 pair socks	_____	_____
2 or 3 pairs of shoes (one pair suitable for hiking)	_____	_____
Rain hat, boots and waterproof raincoat	_____	_____
*Heavy jackets and hats (with ear protection in winter)	_____	_____
Sweater(s) or sweat shirt	_____	_____
Handkerchiefs (4)	_____	_____
Laundry bag	_____	_____
Flashlight	_____	_____
4 changes of clothing (girls pack slacks, *1 woolen pair)	_____	_____
Pocket notebook and pencils	_____	_____

Optional

*Gloves	_____	Canteen	_____
Shirts (girls)	_____	*Chapstick	_____
Shorts (1 pair)	_____	*Sunglasses	_____
Camera	_____	Sun tan lotion	_____
Field glasses (binoculars)	_____	Insect repellent	_____
Small kmapsack	_____	Kleenex	_____

Pocket reference books on outdoor subjects:
(trees, flowers, birds, rocks, etc.) _____

Pocket knife (to be kept by teacher until needed) _____

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

TEACHER ASSISTANT PROGRAM FOR HIGH SCHOOL JUNIORS AND SENIORS

CESC is a public, private and parochial school environmental education project, currently sponsored by the Federal Government, under Title III, ESEA. One phase of this project involves elementary and junior high school students in a Resident Environmental Education Program. In such a program these youngsters reside at the CESC for a school week. During their stay they are involved in activities in many areas of their regular school day program. Though all areas of their regular studies are included, special emphasis is placed on environmental education. That is, they concentrate on the sciences and the social sciences. Because the school children will be living together 24 hours per day, for five days, the program emphasizes the advantages of a social living experience. CESC welcomes the opportunity to invite you to serve as a teacher assistant with residency programs.

Teacher Assistants

What is asked of you: Your responsibilities include:

1. Assisting teachers in the field in small group instruction.

2. Guiding resident students in the dining hall, emphasizing procedures and proper table manners, as well as directing conversation.

3. Being responsible for the personal hygiene of the children placed under your direction.

4. Assuming leadership for the cabin group assigned to you:

    a. checking that the sleeping area is clean and neat at all times.
    b. that the children are on time for meals and activities.
    c. that the children are in bed with lights out at the designated time.

5. Assuming any other leadership role and/or duty as assigned to you by CESC staff members.

Benefits to you:

A week at the CESC will give you a better understanding of the deep seated problems related to all of our environment.

If you plan to enter the teaching profession, serving as a teacher assistant will give you first hand experience working with children.

Teacher Assistant Program

Benefits to you - cont'd

Leadership experience gained at CESC will help you grow as an individual and aid you in obtaining summer jobs during your years in college.

Upon successful completion of a teacher assistant experience during a residency, an appropriate letter of commendation will be entered in your folder in the high school guidance office. Such a letter is advantageous to have when applying to a college or for a job.

Problems you may encounter:

1. Handling the children...you are not asked to be a policeman. If you act like one, you will only create trouble and problems for yourself.

2. The possibility of a 16-hour work day...your job will not be easy. You will spend most of your hours with children.

3. There will be little time for your own studies. Get your make-up assignments well in advance, and don't put off completing them until the last minute.

Rules of the CESC:

1. When you have a problem, don't hesitate to ask any member of the staff or teachers for advice.

2. You are not permitted to leave the CESC on your own -- only in the company of an adult, and then only with permission of the person in charge.

Advance Requirements:

1. Complete the multiple permission form which must include all your teachers and your parents' signatures.

2. Get all make-up class assignments in advance of your visit to CESC.

3. Complete the medical form and bring it with you. Turn it in to the CESC office upon arrival.

4. Make sure you get a copy of the suggested clothing list.

If, after reading all of the above carefully, you are still interested, obtain all the necessary permissions and are selected, the CESC welcomes you aboard. We hope the week will be an enlightening and rewarding one. If you have any questions after the orientation session, please feel free to call Mr. Ed Kiess, CESC Associate Director, at (609) 893-9152.

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

Teacher Assistant Program - Multiple Permission Form

Name_____ Date_____

School_____ Home Room_____

Address_____ School Phone_____

_____ Home Phone_____

Teachers' Permission:

Period	Room	Subject	Teacher's Signature

Parent's Permission:

_____ has my permission to act as a Teacher Assistant at the Conservation and Environmental Science Center for Southern New Jersey during the week of _____ while children from _____ are in residence. I have read the material distributed to prospective high school students.

_____
Signed

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

DISSEMINATING INFORMATION ABOUT ENVIRONMENTAL EDUCATION PROGRAMS

What happens in the classrooms is becoming of increasing interest to the public in general and to educators in particular. The Conservation and Environmental Science Center for Southern New Jersey, servicing a consortium of more than 55 school districts in eight counties, is concerned with environmental education. CESC through its dissemination consultant and professional staff is active in publicizing its program and curriculum materials.

One of the problems in describing environmental education is that this curricular effort suffers from a number of names which conjure up stereotypic notions in the minds of our audiences.

For example: we avoid words like "camp" or "encampment" because our environmental education program would then be equated with a summer camp and the varying degrees of "roughing it at camp." CESC's Resident Environmental Education Programs, scheduled for five days from mid-September to early June of the school year, are not intended to seek the objectives gained by a camping program. However, CESC will operate one or more camping programs this summer with emphasis on outdoor living, survival skills and group dynamics. Such programs are seldom profitable in terms of educational value, or feasible for children in the five-day module.

We seldom call the CESC program "outdoor education" because that term often does not imply a concern for environments, their nurture or preservation. Similarly, outdoor education is often mistaken for a recreation program with little other curricular concern.

Environmental education does include the methods of using the outdoors as a prime source of direct first-hand experiences in the curriculum. Since environmental education utilizes a multi-disciplinary approach, CESC hopes to avoid news releases which categorize the Resident Environmental Education Program as an "outdoor science program" or a "nature program." For this reason we also avoid the terms "nature center" and "science camp." CESC's resident programs contain such aspects, but also much more.

Two sample news releases are attached. They illustrate minimal reporting of essentials desired by most news editors. You may wish to schedule a session with CESC's dissemination consultant to discuss various audience levels for dissemination and other pertinent techniques.

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

SUGGESTIONS ON NEWS RELEASES

Attached to this sheet for your use is a suggested news release about you and your class. Please type in the proper names and class description. Since there are some general rules for a news release, it is hoped the following format and style suggestions for newspaper releases are helpful to you.

1. Indicate IMMEDIATE RELEASE at top of first page.
2. Begin first page about half-way down on the paper.
3. Double space each page.
4. Please indicate --MORE-- and use 1st add, 2nd add, etc.
5. At end of release sign off with #### or -30-.
6. Either at the top of the first page or at end of the release type your name, either home or school address and phone number.
7. Do not headline your news release.
8. Do not mail smudgy carbon or ditto copy to a newspaper editor. The extra time allowed for clean copy may guarantee editorial acceptance of your release and spark a feature story interest.

About pictures: Perhaps a call from you, or someone in the school, to the editor of the newspaper might insure publication of a picture with the release, (if one is available), or as a follow-up to your first release.

Most newspaper editors prefer as few persons as possible in a picture, (preferably no more than four, who can be easily identified). It might be preferable to arrange for publication of more than one photo, if a larger number of persons will be photographed. Weekly newspapers are more apt to publish a group photograph.

Please call on us at the Conservation and Environmental Science Center (893-9154) if you need special help with news releases.

FOR IMMEDIATE RELEASE

The _____ School District will have a
(name of school district)
_____ and _____ class(es) attending the Conservation and Environmental Science Center for Southern New Jersey.

_____, the _____ grade teacher is
(Miss, Mr., Mrs. - teacher's name)
accompanying _____ class to the CESC. _____.
his, her *CESC consultant's name*
CESC staff member and school consultant, has been involved in planning and organizing the program of study and experience for _____'s
(teacher's name again)
class, for the past few weeks.

The Conservation and Environmental Science Center, a Title III project is funded by a grant from the U.S. Office of Education under the Elementary and Secondary Education Act of 1965, is temporarily leasing facilities at the Mt. Misery Methodist Conference Center, near Browns Mills.

-- MORE --

1st add/Class

The children will live at the environmental education center from Monday until Friday afternoon, the week of _____. Separate
(dates)
boys and girls dormitories, a community dining hall, an infirmary and classrooms are available at the Center. The CESC staff and personnel from _____ School District will supervise the week-long activities in community living and learning. (List names of additional personnel) will be participating in the program at the Center.

The ____ grade class will participate in a week of study and training in environmental science and conservation. The program will involve small group exploration into air and water pollution and other areas of ecology, astronomy, geology, the historical and present-day implications of the Pine Barrens, and other aspects of their unique out-of-doors school.

The Conservation and Environmental Science Center program emphasizes that the usual school subjects, such as English, mathematics, art and music, will be experienced in real life situations in the out-of-doors. For example, a practical application of mathematics will be measuring the height and diameter of a tree to determine the amount of board feet and the tree's economic value. Language art skills will be developed through written and oral reports, creative writing and story telling activities.

Upon the return of the _____ grade class from the environmental education Center, _____ and _____
(teacher's name) *(CESC consultant's name)*
will follow up the resident activities with a classroom and on-school grounds program. Included in the post-resident program will be reports of the class members' experiences and studies at the outdoor Center. A compiled class report will be submitted to the school board at a future date to be announced.

#####

FOR IMMEDIATE RELEASE

The unique experience of learning and living together at the Conservation and Environmental Science Center for Southern New Jersey will be shared by pupils and teachers in _____'s _____ (and)
school district or community name
_____ grade class(es).

"Planning and preparation for the week-long experience from Monday morning until Friday afternoon, has been underway for several weeks now," said _____, the _____ grade teacher.
(Mr., Miss, Mrs.) teacher's name

"The children will be at the Conservation and Environmental Science Center during the week of _____," said _____.
dates other teacher's name
who is also accompanying _____class.
his, her
_____, a CESC staff member, has been consulting
School Consultant's name
with _____ and _____, helping to
teacher's last name only other teacher's last name
organize the program of study and experience for each class while at the environmental education center.

--MORE--

1st add/class

The Conservation and Environmental Science Center, a Title III project, is funded by a grant from the U.S. Office of Education under the Elementary and Secondary Education Act of 1965, temporarily leasing the facilities of the Methodist Conference Center, at Mt. Misery near Browns Mills.

Boys and girls will live in separate dormitories and share their meals in a community dining hall. An infirmary and informal classrooms are available at the Center which is located in New Jersey's Pine Barrens' area.

The CESC's staff and personnel from the _____ will
name of school district
supervise the week-long activities in community living and learning. (LIST NAMES OF ADDITIONAL SCHOOL DISTRICT PERSONNEL) will be at the CESC and involved in the program.

The school children will participate in a week of study and training in environmental science and conservation. The program will involve small group exploration into air and water pollution and other areas of ecology, astronomy, geology, the historical and present-day implications of the Pine Barrens, and other aspects of their unique out-of-doors school.

The Conservation and Environmental Science Center program emphasizes that the usual school subjects, such as English, mathematics, art and music will be experienced in real life situations in the out-of-doors. For example, a practical application of mathematics will be measuring the height and diameter of a tree to determine the amount of board feet and the tree's economic value. Language art skills will be developed through written and oral reports, creative writing and story telling activities at the Center.

Included in the post-resident program will be reports prepared by individual class members, of their experiences and studies at the outdoor Center. A compiled class report, including pupil evaluations of their week in the out-of-doors, will be submitted to the school board.

####

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

The following is a condensed version of what is referred to, by the CESC staff, as the LEA Check List. The LEA Check List is used with each REEP, and effectively provides a capsule summary of the combined efforts of the CESC and the LEA for each residency program.

Name of Local Education Agency:_____

Date of this Report:_____

Date Scheduled for LEA at Center:_____

		# Males	# Females
Grade or Class:_____	Teacher:_____		
Grade or Class:_____	Teacher:_____		

RESOURCES

Personnel and Materials from LEA — List Name

1. Nurse:_____
2. High School Aides:_____
3. Parents:_____
4. Auxiliary Teachers:_____
5. Bus arrangements by LEA: — Completed
   a. To and From Center_____
   b. For Special Trips_____

6. Equipment and Supplies Needed for Program:-

List of Equipment:	List of Supplies:

PUBLIC RELATIONS

1. Ask for LEA P.R. person -- check with principal or Supt. _____
2. If no P.R. person, call local paper(s) _____
3. LEA administrators and school board invited _____
4. Reporters invited: _____
5. Other special visitors invited: _____
6. Names of special visitors expected _____
7. Pre-REEP release _____
8. During REEP release (should be mailed Mon. of resident week) _____
9. Post-REEP release _____
10. Thank you letters _____

LEA Check List - cont'd

6. Equipment and Supplies Needed for Program:-

List of Equipment:	List of Supplies:
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

PUBLIC RELATIONS

1. Ask for LEA P.R. person -- check with principal or Supt. _____
2. If no P.R. person, call local paper(s)_____
3. LEA administrators and school board invited_____
4. Reporters invited:_____
5. Other special visitors invited:_____
6. Names of special visitors expected_____
7. Pre-REEP release_____
8. During REEP release (should be mailed Mon. of resident week)_____
9. Post-REEP release_____
10. Thank you letters_____

ARRANGEMENTS FOR CESC STAFF AND FACILITIES

	Check when Completed
1. Staff assignments made ahead of time	
2. Copies of schedules for staff	
3. Films ordered	
4. Special speakers scheduled	
5. Special audio visual equipment not possessed by the Center	
6. Bag lunches or cook-out supplies ordered ahead of time	
7. Medical forms arrive in Center with students	

ROUTINE ASSIGNMENTS TO BE EXECUTED BY TEACHERS OF THE LOCAL EDUCATION AGENCY

1. Parents' Meeting	
2. Parents' Letters	
3. Permission slips	
4. Medical forms	
5. Clothing list and other items to bring	
6. Preliminary schedules	
7. Cabin assignments including supervisors	
8. Activity groups including leaders and team members	
9. Cruiser assignments -- list before coming	
10. Table assignments -- list before coming	
11. Cabin clean-up assignments	
12. Cook-out organization, if a cook-out is planned	

THE METHODIST CONFERENCE CENTER

CESC's Environmental Education Resident Programs are conducted on a dawn to bedtime schedule at the Methodist Conference Center, at Mount Misery, near Browns Mills, New Jersey.

The Methodist Conference Center is a 150-acre tract located in the Pine Barrens of Burlington County, which is owned and operated by the Board of Education of the Southern New Jersey Conference of the Methodist Church.

This tract adjoins the 1,000 acres that comprise Lebanon State Forest. At the Methodist Center there is a lake, fed by the Mt. Misery brook, which offers excellent opportunities for stream and small lake studies. Students may study depth-temperature variations, seasonal populations of aquatic plants and animals, and stream flow, to name a few possible activities.

Sandy trails wind through the pine woods surrounding the Center where many exotic plant species grow in abundance. The pine woods are the haven of deer, white-footed mice, opossums, raccoons, and other animals or visual textbooks that relate the animals' environment to his existence. Children being taught to keenly observe the outdoor world profit from their introduction to this learning environment.

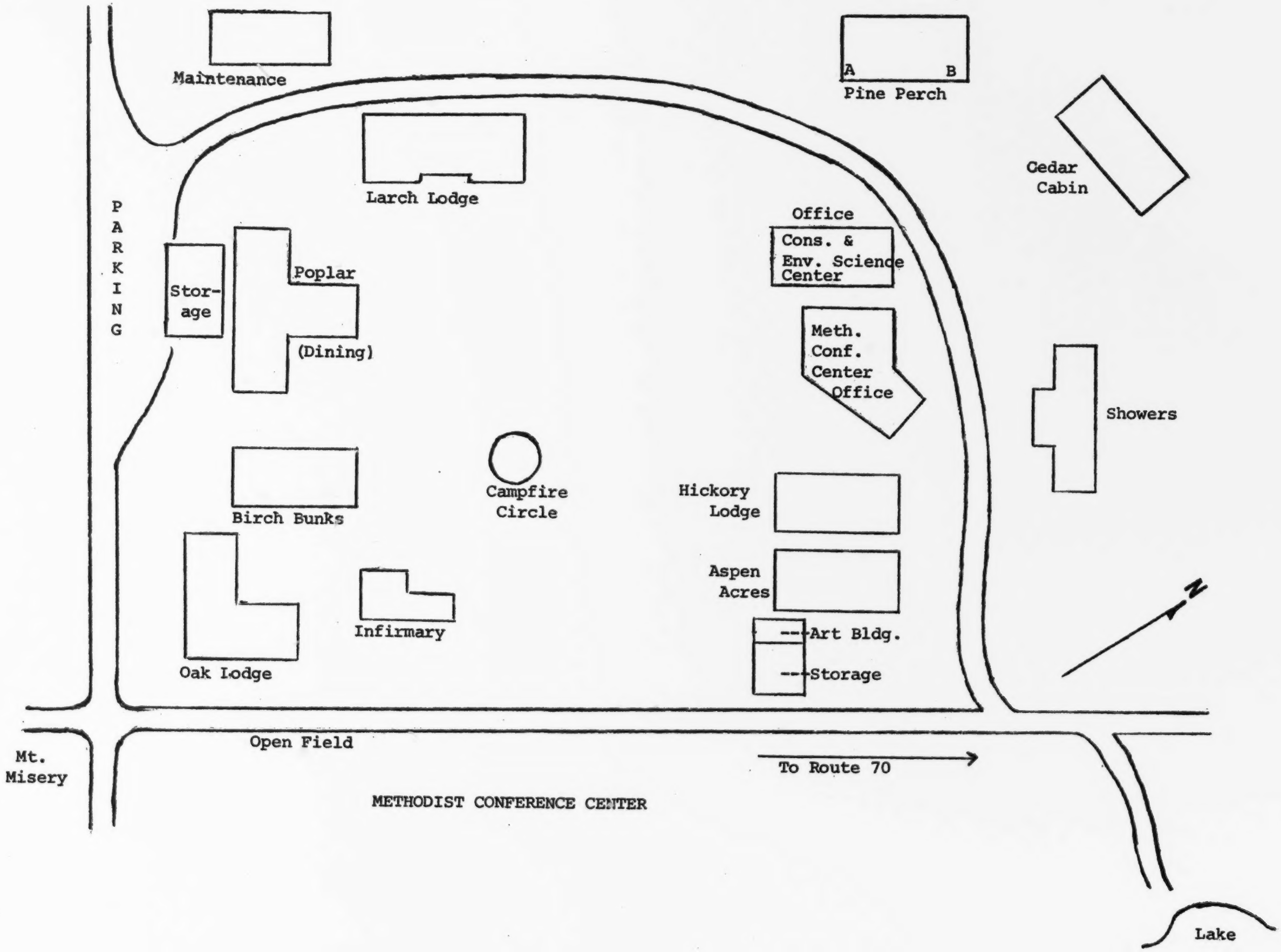
At the Methodist Center, modern heated residence buildings, cabins, an infirmary, a chapel-all purposes building and a central dining hall, able to accommodate 150 persons, are situated within easy walking distance of the CESC office building. This building also houses the library and all the laboratory and field equipment used by the students during their resident week.

HIGHWAY DIRECTIONS

The Methodist Conference Center at Mt. Misery is located just off N.J. Route #70, three miles east of the "Four Mile Circle" and ten miles west of Lakehurst. The Center is on Mt. Misery Road which may be located by three signs--a green and white sign indicating Mt. Misery, a yellow sign with black letters indicating the Methodist Conference Center, and a white sign with green letters and a red arrow indicating the Conservation and Environmental Science Center for Southern New Jersey.

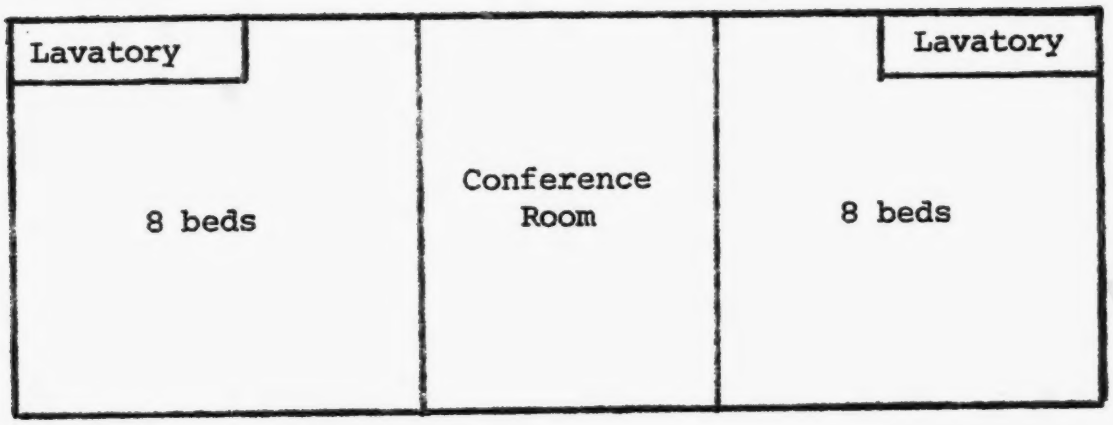
If you are traveling east on N.J. Rt. #70, toward the shore, you will find the entrance to Mt. Misery on your right just beyond mile post 30.

If you are traveling west on N.J. Rt. #70, from the Garden State Parkway and Lakehurst, you will find the entrance to Mt. Misery on your left, just beyond the 31 mile post marker.


Maintenance
Pine Perch
A
B
Larch Lodge
Cedar Cabin
PARKING
Office
Cons. & Env. Science Center
Stor-age
Poplar
(Dining)
Meth. Conf. Center Office
Showers
Campfire Circle
Hickory Lodge
Birch Bunks
Aspen Acres
Infirmary
Art Bldg.
Storage
Oak Lodge
N
Open Field
Mt. Misery
To Route 70
METHODIST CONFERENCE CENTER
Lake

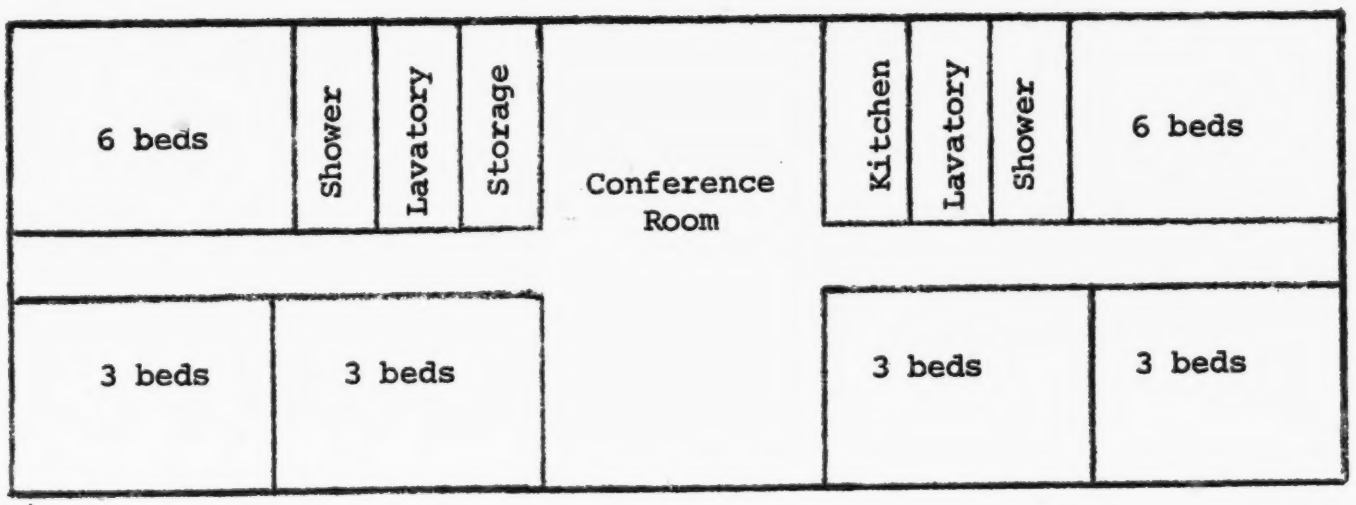
PINE PERCH AND CEDAR CABIN

(16 each)



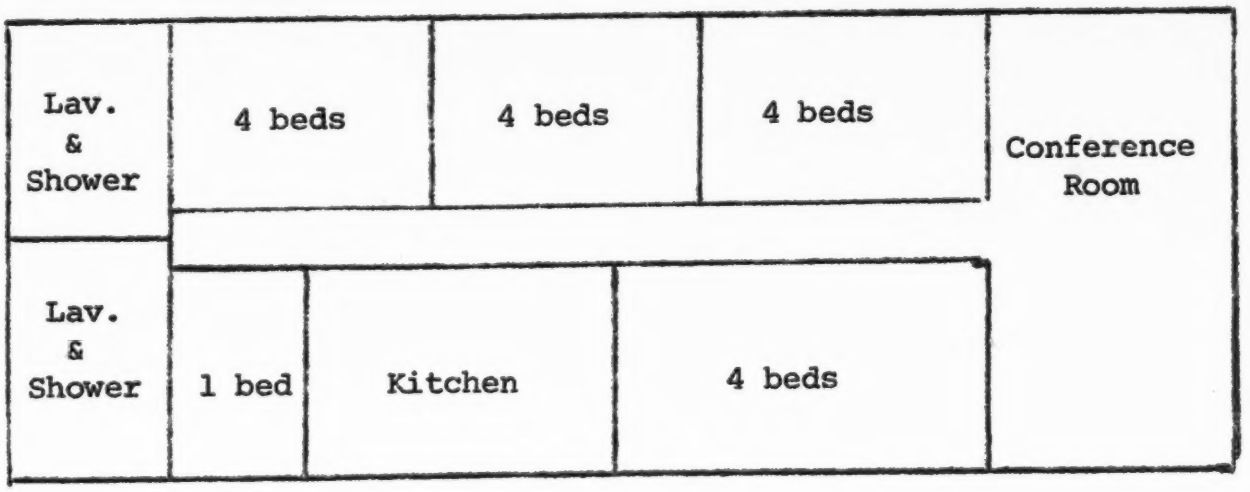
LARCH LODGE

(24 each)



BIRCH BUNKS

(17 each)



THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

DEVELOPING A RESIDENT ENVIRONMENTAL EDUCATION PROGRAM

Resident programs have been a part of the educational scene for the past 40 years. During those years, specific helpful hints have evolved as successful techniques for both organization and program content.

The CESC Staff has been deeply involved in the refinement of these techniques. The CESC Consultant is trained to assist you in the choice and development of these techniques, before, during and after a resident environmental education program.

1. Develop a program with one or both of these emphasis:

    a. Continuation of learning currently conducted in the classroom,
    b. Selection of valuable learning experiences unique for the area and locale of the resident center.

2. Advance preparation for outdoor activities at the resident center:

    a. Introduce new ideas or units for which the outdoor experience would be a meaningful continuation,
    b. Utilize the classroom library with emphasis on social studies and science references.
    c. If copies are available, have children become familiar with "The World Out-of-Doors," by using certain portions of this reference book in class.

3. Organize the children in groups for outdoor session:

    a. Study groups of 5 to 10 or 8 to 12 children who have worked together in class,
    b. Assign cruisers (waiters) for dining hall--each child should be assigned duties for 2 or 3 meals.
    c. Assign cabin places and familiarize children with the map of the Methodist Conference Center building layout.
    d. Plan for all special equipment and materials needed for educational and recreational program (science, art, infirmary, etc.) Bring what you have, and ask the CESC for any additional equipment you may need.

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

SOME SUGGESTED ACTIVITIES

The Conservation and Environmental Science Center for Southern New Jersey provides a setting where school youngsters can study in the outdoors some things it would be difficult to learn about in the regular classroom. Listed below are some suggested activities for school work in the out-of-doors. For maximum involvement, the children should help plan for those activities which they prefer and which fit within the framework of the on-going learnings in the classroom.

EARTH SCIENCE

Prospecting for clay
Tracing springs, streams and watersheds
Testing soils
Making soil surveys
Miniature geology
Search for fossils
Land forms in Lebanon State Forest area
Temperature surveys of: lakes, streams, soil, air
Star study
Position of sun and moon
Survey of weather changes
Weather prediction

SOCIAL STUDIES

Visit lost towns
Visit cranberry bogs
Visit lost bog iron furnaces
Study abandoned site
Visit Whitesbog where marketable blueberry was developed
Geography of Lebanon State Forest
Searching for Indian artifacts

MATH OUT-OF-DOORS

Using compass to study angles
Measuring areas by pacing and tape measure
Measuring height of a tree
Measuring diameters
Measuring across water and other barriers
Laying out a biology study area
Making data graphs

LANGUAGE ARTS

Keeping a log or diary
Expressing yourself--your experience or thoughts
Writing poetry or prose
Discovering Pine Barrens lore (like legend of the Jersey Devil)

ART OR CRAFTS

Painting - water, oil
Sculpture
Mobiles, collages - using native materials
Crafts - jewelry from pecan nuts or whittled cedar or ceramics and copper
Pine Barrens games

FOREST STUDY

Survey of tree growth
Is moss on north sides of trees?
Birds of the Pine Barrens (winter, spring and fall)
Tree size and soil fertility
Does the forest heal scars in the earth?

LAKE STUDY

Biological survey
Aquatic life
Water temperature studies
Stream control and flow
Water supply for resident center
New Jersey water sheds

WINTER SPORTS

Ice skating
Snow shoeing
Exploration hikes
Mystery hikes

OUTDOOR SKILLS

Finding your way in the woods by map
Finding your way by stars, sun or planets
Finding foods in the wilderness
Building a safe fire

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

RESIDENT ENVIRONMENTAL EDUCATION PROGRAM GROUPS

In planning the resident program there are several assignment lists that should be considered and these assignments for each category should be made prior to the arrival of the class at the resident center. The following list has been prepared to assist in the development of the total program.

1. Cabin Assignments:

   (a) The diagram of cabin facilities illustrates the sleeping capacity for each building at the resident center.
   (b) An adult or high school aide should be in residence in each building.

2. Activity Groups:

   (a) The CESC philosophy encourages the use of small group activities because of their social development and learning potential.
   (b) Groups can be organized through student interests.
   (c) Skillful placement of student leaders and individuals to supplement the group's needs should be employed.
   (d) Adult leadership for each group is needed.

3. Table Assignments:

   (a) Children may be assigned to table groups.
   (b) There should be seven students, one staff member and an empty seat at each table.
   (c) The cruiser may be chosen from each table group.
   (d) There should be an adult or a high school student aide at each table to serve the meal.

4. Cruiser Assignments:

   (a) A cruiser is needed for each table at each meal.
   (b) Cruisers may be assigned by the day, meal, or by an assigned number.
   (c) It is preferable that as many students as possible have the opportunity to serve as a cruiser.
   (d) Children should become familiar with the "Guide for Cruisers" prior to the resident program.

5. Staff Assignments to Activity Groups:

   (a) Each activity group must have an adult leader.

6. Cabin Cleanups:

   (a) Assignments for such duties as sweeping, holding the dustpan, washing the sink, etc. may be on a rotating or fixed basis as preferred.
   (b) The housekeeping condition of each dormitory facility will be inspected daily by the nurse.

7. Cookout Organization:

   (a) If a cookout is planned, it will be necessary to organize groups to gather wood, build a fire, prepare the meal, cook the meal, gather the equipment and supplies and clean up. These groups may be different in make up than activity groups.

THE CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
for Southern New Jersey

Banks Street School - Mr. Yellin - Sixth Grade

Buckshutem School - Mrs. Rosmussen - Fourth Grade

Bridgeton, New Jersey

OBJECTIVES

ANIMALS

1. Students will use different methods to observe and study wildlife behavior.
2. Students will recognize and identify the tracts of at least two different animals.
3. The students will express orally the needs of wildlife for survival.

QUADRAT STUDY

1. Students will compare soil and plants from their school sites with soil and plants found at Mt. Misery.
2. Students will be able to describe orally soil horizons or layers.
3. Students will be able to hypothesize as to what the South Jersey pine forests would be like if there were no fires.

COMPASS AND MAP STUDY

1. Students will be able to orient a magnetic compass and a topographical map.
2. Students will be able to explain the symbols found on topographical maps.
3. Students will use map and compass to travel to a predetermined location.

POND STUDY

1. Students will be able to explain how the lives of pond animals change during the winter.
2. Students will collect different species of pond animals and will use reference books to try and identify them.

Objectives - Bridgeton R.E.E.P.

GEOLOGIC FORCES

1. Students will recognize and make drawings of miniature land formations.
2. Students will be able to write suggestions for erosion control.
3. Students will compare denuded soils with humus covered soils and write the differences observed.

WHITESBOG

1. Students will be able to explain orally the many uses of water on a cranberry farm.
2. Students will write a story or poem about some aspect of Whitesbog.
3. Students will be able to contrast Whitesbog's found purposes with its present goals.

ASTRONOMY

Students will be able to locate at least two constellations in the winter sky and to locate compass directions from the stars.

CONSERVATION

1. Students will actively participate in a conservation project.
2. Students will show a concern for conservation by at least one overt act.

SOCIAL

Students will work harmoniously in small groups sharing equipment and ideas.

CONSERVATION AND ENVIRONMENTAL SCIENCE CENTER
FOR SOUTHERN NEW JERSEY

CLAYTON PUBLIC SCHOOLS SCHEDULE

Week of October 14, 1968

Theme: Man's Industrial Development in the Pine Barrens

TIME	Monday	Tuesday	Wednesday	Thursday	Friday
	Possible Bird Study or Sunrise Observation				
7:45	Cruisers Report to Dining Hall				
8:00	BREAKFAST				
9:00	leave Clayton for Mt. Misery	9:00 Morning Activity Period	Group A Clay Sculpture	Group A Harvesting the Forest Crop	Groups A, B, C Dormitory Clean-Up
10:30	Arrive at the Center, unload & settle in the dormitories	Group A Man's survival in the Pine Lands	Group B Sand Casting	Group B Water for Man and Animal	10:30 Fire's effect on the Pine Barrens
11:00	Orientation Hike, meet High School Aides & get to know the area	Group B Iron in the Pines	Group C Natural Collage Construction	Group C Agricultural Industry in the Pine Barrens	11:30 Final Evaluation
		Group C Interrelationship of soils & man's development			
12:15	Cruisers Report to Dining Hall				
12:30	LUNCH				
1:00	Evaluation and General Preparation				
1:30	Afternoon Activity Period				
	Group A Interrelationship of soils and man's development	Group A Iron in the Pines	Group A Agricultural Industry in the Pine Barrens	Group A Water for man and animal	1:15 Load busses & final inspection
	Group B Man's survival in the Pine Lands	Group B Interrelationship of soils and man's development	Group B Harvesting the Forest Crop	Group B Agricultural Industry in the Pine Barrens	1:30 Leave Mt. Misery
	Group C Iron in the Pines	Group C Man's survival in the Pine Lands	Group C Water for man and animal	Group C Harvesting the Forest Crop	3:00 Arrive Home

CLAYTON PUBLIC SCHOOLS SCHEDULE

	Monday	Tuesday	Wednesday	Thursday	Friday
4:30	FREETIME - Individual Research, Nature Recreation, Fishing, Rest Period, Etc.				
5:45	Cruisers Report to Dining Hall				
6:00	DINNER				
6:30	Evaluation and General Preparation				
7:30	Evening Activities				
	Opening Campfire Slide Presentation on "The Not So Barren Pinelands of New Jersey" (Fred Mason)	Square Dancing and Folk Dancing	"Operation Night Watch" and Star Party	Closing Campfire Creative Dramatics, skits	
8:45	Evening Snack Time				
9:00	Clean Up and Prepare for Bed				
9:30	LIGHTS OUT!!!				

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Clayton Residency
October 14 - 18, 1968

Staff Assignments to Activity Periods

SAMPLE

1. LEA Teachers' Names:

   Miss Eunice Bell, Teacher - 6th Grade
   Mr. Mike Silver, Physical Education Instructor

   High School Aides' Names:

   Debbie DuBois — Dennis MacMullin
   Kathy Morse — Art Raws

2. Group Meeting Places:

   Group A - always meets in the center of Larch Lodge
   Group B - always meets in the center of Pine Cabin
   Group C - always meets in the center of Cedar Cabin

3. CESC Consultants Note:

   Your prime purpose is Teacher Training. If you've been assigned a series of three identical lessons, you teach the first lesson. Your teacher and HSA should be able to assume the leadership role in the two lessons that follow.

4. Teachers Note:

   Your HSA's are your assistants. Their purpose in working with you, as members of the F.T.A., is to gain first hand experience as a teacher. If you feel confident about their competency to assume the teaching responsibility by the third lesson, in a series of three lessons, encourage them to teach the lesson.

Date	Time	
Oct. 14	A.M.	Orientation Hike HSA's responsibility - Get to know your students Teachers' meeting in dining hall
	P.M.	Group A - Mike Silver, Debbie DuBois Group B - Fred Mason*, Eunice Bell, Dennis MacMullin, Art Raws Group C - John Raffo*, Kathy Morse
	Eve.	Groups A,B,C - Slide Presentation, Fred Mason Opening Campfire, Gary Patterson

Staff Assignments - Clayton Residency (cont'd)

Date	Time	
Oct. 15	A.M.	Morning Jog - Mike Silver
		Group A - Eunice Bell, Dennis MacMullin, Art Raws, Fred Mason Group B - Kathy Morse, John Raffo Group C - Mike Silver, Debbie DuBois
	P.M.	Group A - Kathy Morse, John Raffo Group B - Mike Silver, Debbie DuBois Group C - Eunice Bell, Dennis MacMullin, Art Raws, Fred Mason
	Eve.	Folk Dance - Lois Schoeck
Oct. 16	A.M.	Bird Observation - Gary Patterson
		Group A - Eunice Bell, Art Raws, Debbie DuBois Group B - Lois Schoeck*, Dennis MacMullin Group C - Mike Silver, Art Raws
	Eve.	Night Watch - HSA with their cabin groups, teachers and Gary Patterson will also work with small groups.
Oct. 17	A.M.	Group A - Debbie DuBois, John Hiros Group B - Mike Silver, Art Raws Group C - Eunice Bell, Dennis MacMullin, Kathy Morse, Karen Ambry
	P.M.	Group A - Mike Silver, Art Raws Group B - Eunice Bell, Dennis MacMullin, Kathy Morse Group C - Debbie DuBois, John Hiros Freetime - HSA's help prepare cabin groups for skits
	Eve.	Teachers, HSA's, and Gary Patterson
Oct. 18	A.M.	1. HSA supervise cabin clean-up 2. Teachers be ready to inspect cabins. Following inspection take any cabin group you feel is ready, on a "fire study hike." 3. Evaluation - teachers, HSA's and Gary Patterson

**CESC Consultant leads first lesson.*

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DINING ROOM PROCEDURE

The dining hall tables each accommodate nine people, four on each side and one on the outer end. There should be students, one staff member and an empty seat at each table. Teachers or aides or CESC staff act as servers and sit in front of the stack of plates. The hostess or host sits to the left of the server. A resume of the duties are as follows:

Server - Serves all food that comes to the table.
Is responsible for conduct of the individuals at his or her table.
Directs the actions of the cruiser.
Is responsible for the orderly progression of the meal.

Host or hostess - Invites guests to the table.
Directs conversation during the meal.
Pours all beverages and tells the server when more is needed.

Cruisers - See separate form entitled "Guide for Cruisers."

Teachers should assign students to a table before or upon arrival at the Center. The positions of cruiser and host or hostess should be rotated among those assigned to the table. Divide the number of meals being eaten in the dining hall by the number of students at the table and this will indicate the number of times each student should serve as a cruiser. A chart indicating who is host or hostess and who is cruising for each meal should be prepared ahead of time and posted in a prominent place in the dining hall once the youngsters have arrived at the Center. It is also advisable to have a reminder read at each meal by the person making the announcements.

ALL DAY HIKE

If an all-day hike is part of your program, a bag lunch will be eaten on the trail at the noon meal. After breakfast, the makings for this lunch will be placed on the tables in the dining hall and the students will make their own sandwiches and pack their own lunches under the supervision of their teachers and counselors. Be sure that fruit is taken on the hikes--this may be the only source of liquid on some trails.

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GUIDE FOR CRUISERS

One Cruiser for each table at each meal - only one! Cruisers must be in the Dining Hall 15 minutes before each meal. Cruisers must remain with the same table for the entire meal.

PROCEDURE

FIRST: Wash your table and set it according to information posted on the menu board. Then pick up food items on serving counter.

SECOND: After first course (juice or soup) remove these empties. If dishes, return to dishwashing counter in the kitchen. If empty paper cups, deposit in paper container in kitchen. If filled paper cups, return to dishwashing counter.

THIRD: Get hot food in kitchen for your table. Take one dish at a time. These dishes have enough food for one serving for each person at the table.

FOURTH: During meal, if more food is needed, Cruiser goes to kitchen for it. If there is no more food available in the kitchen, you may check nearby tables.

AFTER EATING THE MEAL

FIRST: Return **ALL** unserved food to kitchen food counter, where you picked it up. Do not stack dishes of food on top of other food dishes. This includes the bread tray.

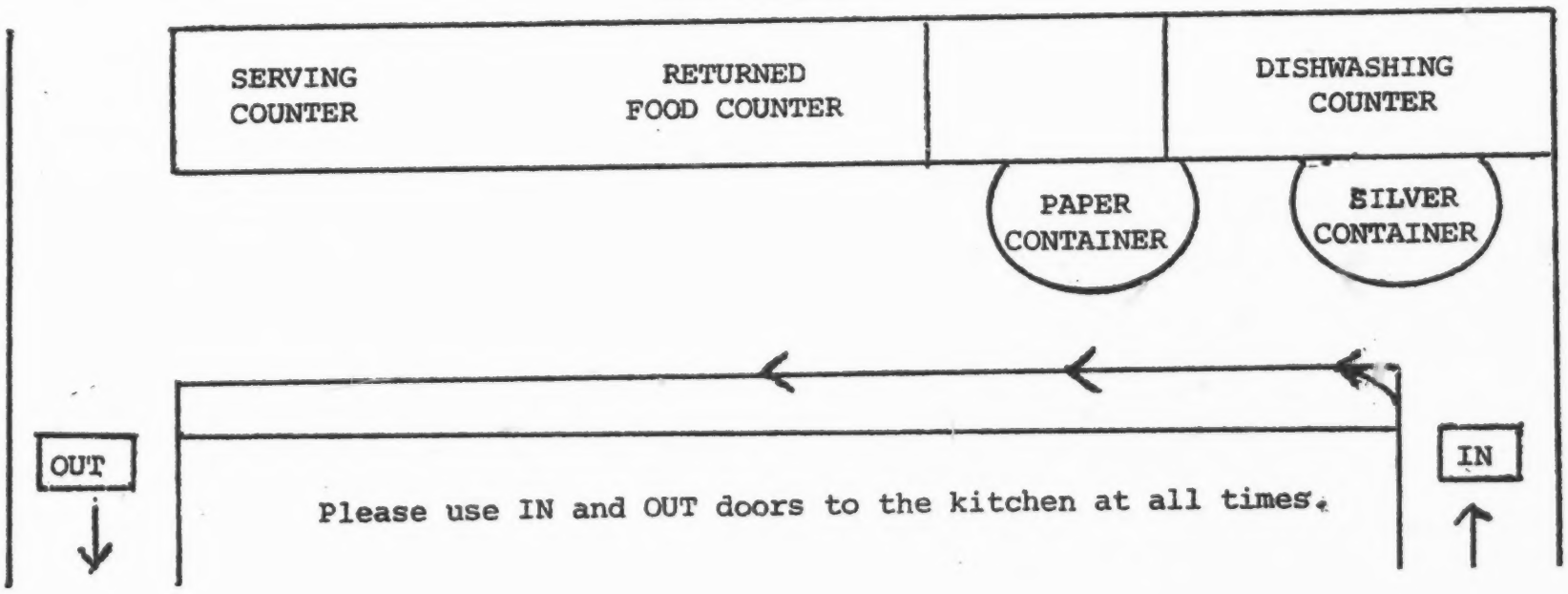
SECOND: Scrape plates. Do not mix food and paper. Return ALL dishes to kitchen, silver to container. Save spoon or fork for dessert.

THIRD: Serve dessert. You pick it up from kitchen and bring it to YOUR table. Take enough for the number of persons at your table.

FOURTH: Remove everything from your table. Salt, pepper, sugar and napkins are placed on table near kitchen entrance. Then, wash your table.

LAST: Sweep floor. Use brooms in left side of closet. Put dust in paper container or waste basket. *We thank you for your help.*

K I T C H E N



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SAMPLE OF WEEK'S MENU

	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
BREAKFAST		Grapefruit Juice Cereal (cold) Scrambled Eggs Bacon Cocoa/Milk	Apple Juice Hot Cereal French Toast Cocoa/Milk	Grapefruit Juice Cereal (cold) Cream Dried Beef Bread & Butter Cocoa/Milk	Orange Juice Hot Cereal Scrambled Eggs Fried Meat Bread & Butter Cocoa/Milk
LUNCH	Tomato Soup Crackers Ass'd Sandwiches Pickles & Olives Cold Drink Chocolate Pudding	Grilled Hot Dogs Baked Beans Tomato & Lettuce Bread & Butter Fruit Punch Fruit	Spanish Rice Fruit Salad Bread and Butter Iced Tea Cookies	Macaroni and Cheese Stewed Tomatoes Bread & Butter Fruit Punch Fruit	Bean Soup Crackers Peanut & Butter Sandwiches Milk Vanilla Pudding
DINNER	Juice Meat Loaf Mashed Potatoes Gravy String Beans Salad Bread & Butter Milk Dessert	Fruit Cup Spaghetti and Meat Balls Tossed Salad Bread & Butter Cold Drink Milk Bread Pudding	Juice Baked Chicken Baked Potatoe Cranberry Sauce Celery/Carrot Sticks Peas Bread and Butter Milk/Cold Drink Gingerbread	Juice Baked Ham Scalloped Potatoes Corn Applesauce Bread & Butter Milk Sliced Pineapple	

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EXPLORATION OF THE CENTER

You and the group might like to take an exploration trip. These are several points that you may visit. Take along a small notebook.

Stop 1 - The Center:

1. Locate the CESC office and the library.
2. Locate the temporary infirmary where the nurse is to be located.
3. Locate the campfire circle. How wide is it?
4. Locate where your teachers, male and female will be at night.
5. Spell the name of the high school aide(s) who live in your cabin group.

Stop 2 - Mount Misery Lake:

1. Find Mt. Misery Lake
   a. Make a little sketch of it.
   b. Which is the upper end of the lake? Which is the lower end?
   c. Is the head of the lake the upper or lower end of the lake?
   d. Is there any water spilling over the dam? How much water?
2. What other questions would you ask your friends or teacher leaders about the lake?
3. Make a record of the most interesting thing you observe at the lake.

Stop 3 - From the head of the lake, walk upstream along the path on the west side of Mt. Misery brook

1. List 5 to 10 of the most interesting things you see on this walk.
2. What woodland signs do you see that help you to know the season of the year we are having now?

Stop right here and discuss what you have seen and heard thus far with the other members of your group.

Exploration of the Center

When you reach the road, walk to the bridge. Go south from the bridge and explore the bank of the stream on the southwest side of the bridge. You can tell if you are in the right place, because you can see an old fruit tree and an old nut tree.

Stop 4 - River Bank and Plain:

1. Can you find a sample of one of each of these trees?
2. What are they?
3. Search the wet, flat ground nearby for animal tracks. (You may also find animal droppings.)

Stop 5 - Mt. Misery Hotel:

1. What do you see in this area that is of particular interest to you?
2. Are there any differences between this site and the surrounding area?
3. Do you think people lived here? What clues did you find?
4. What would you tell your classmates or parents about this particular place?
5. How could you find out more about this place?

Walk straight up the hill, westward, until you come to a broad, flat field.

1. What uses has this field been providing?
2. Is it used for anything more?
3. What peculiar or different things do you notice about this area?

Now continue in the same direction until you reach a black-top road.
Which way should you turn to get back to the residence area at the Center?

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EVALUATING BEHAVIORAL OBJECTIVES

Two groups of 5th and 6th grade students from Emma Havens Young School in Brick Town spent one week in residence at the Conservation and Environmental Science Center for Southern New Jersey. The students, teachers and high school assistants lived in male and female resident lodges, ate their meals together and used the Pine Barrens environment as their classroom for the week.

The teachers, Mrs. Evelyn Rodenbeck, Mr. Ray Schumacher, Mrs. Peg Royer and Mr. Mel Carlough, with CESC Environmental Education Consultants, Lois Schoeck and John Hiros, developed nine behavioral objectives to evaluate the week-long program. These objectives, listed below, were evaluated for each child, by the teacher and high school assistant who worked with that particular child. This same child was also a member of a small group within the class for the entire week. The teachers and high school assistant evaluated every child in their working group of approximately 15 students.

Objectives:

1. Students will learn to read the symbols of a topographical map.

2. Students will learn to set a magnetic compass and follow a set direction in the outdoors.

3. Students will use a magnetic compass and topographical map to travel to a predetermined location.

4. Students will be able to list basic human life, support needs (e.g. food, water, shelter) and to find ways and examples to satisfy these needs in actual situations.

5. Students will recognize constructive and destructive forces of nature and demonstrate knowledge through a dramatic presentation.

6. Students will learn to focus a simple student microscope and study objects selected for observation.

7. Students will learn to use references to classify or verify selected data collected.

8. Students will further develop the use of their senses for observations and descriptions.

9. Students will learn that they can actively participate in conservation by clearing existing trails, constructing a walkway through the swamp, and placing brush piles in gullies to help prevent erosion.

The accomplishment of each objective was evaluated on a scale of zero to five, with zero meaning that the behavioral objective was not achieved and five representing a complete understanding was achieved for that objective. A dash placed in the blank denoted that neither evaluator could determine whether the student had or had not achieved the objective. The students were evaluated by a teacher's estimate of each child's demonstration of knowledge of each behavioral objective.

The evaluation procedures were developed, planned and prepared with the teachers several weeks in advance of the program. The teachers were completely involved in the evaluation and cooperated fully with the procedure.

Overall the results indicated that the objectives were met with a high degree of success with one exception. Objective number five was not successfully achieved because the students apparently did not have a complete understanding of the objective.

In addition to an evaluation of the behavioral objectives for the week, the teachers and high school assistants cooperated in the use of the CIPO Instrument for Evaluation of Environmental Education. A three-page section on "Student Changes in Attitude" in the CIPO Instrument was also completed for each child. Summaries of the both sets of evaluations by the involved teachers follow.

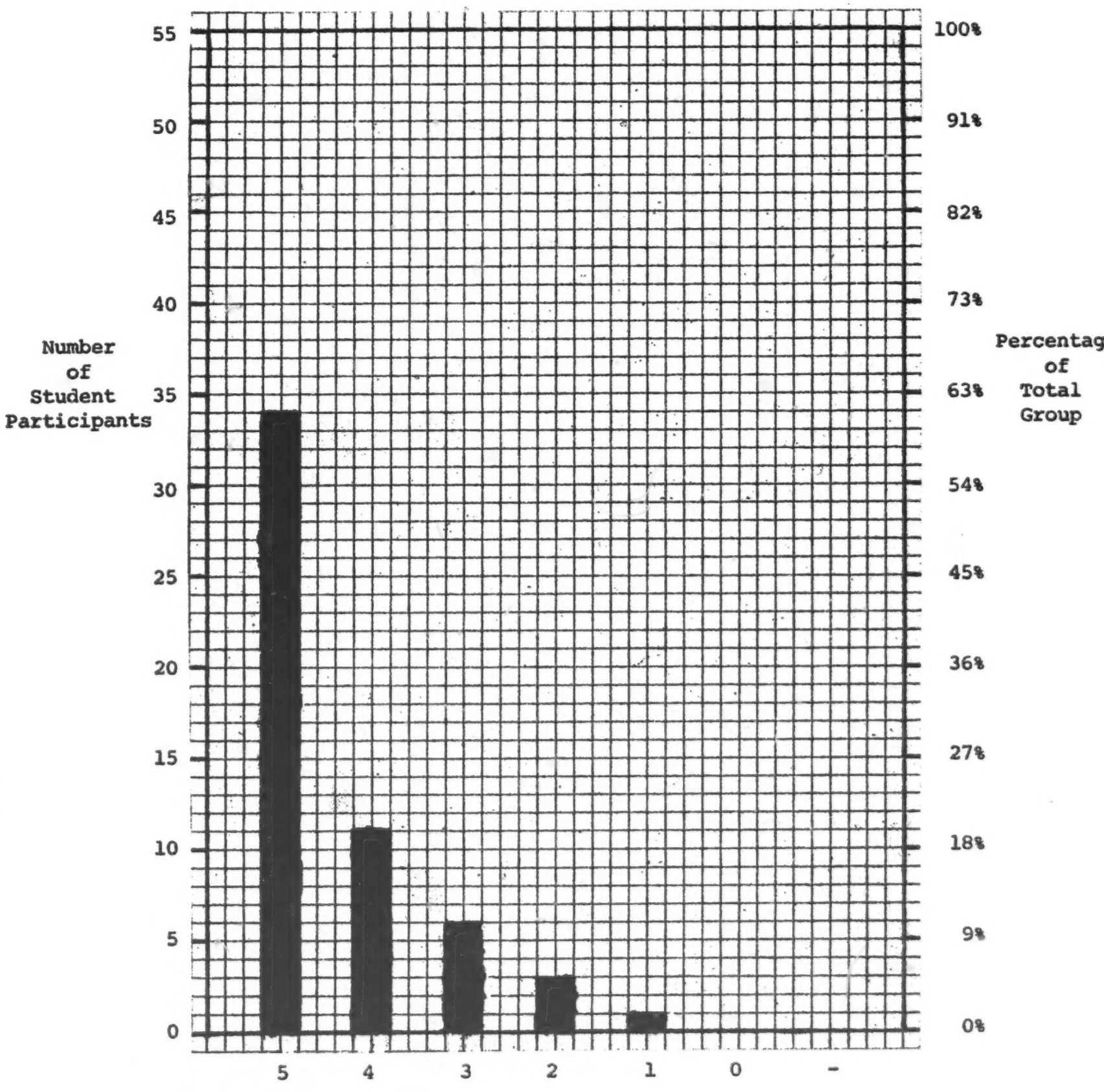
EVALUATION DATA COLLECTION SHEET

Evaluate each child for each objective. Use a scale from 1 to 5--5 being the highest, 1 the lowest. If you do not know if the child has achieved the objective, put a dash in the blank. If the child has not achieved the objective, write "0" in the blank space.

Student's Name (Code # Preferred)	1	2	3	4	5	6	7	8	9	10

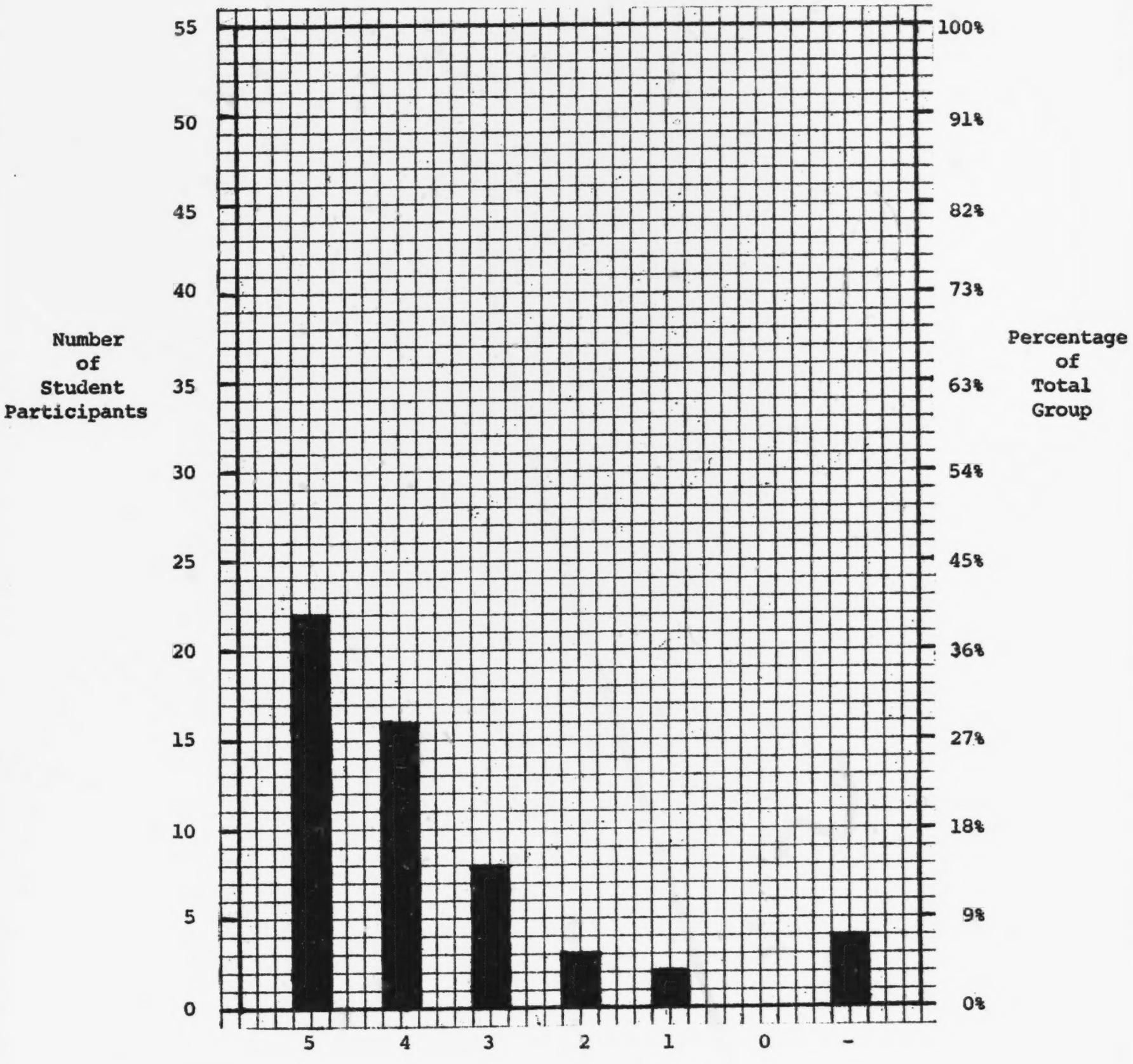
OBJECTIVE #1

Students will learn to read symbols
of a topographical map



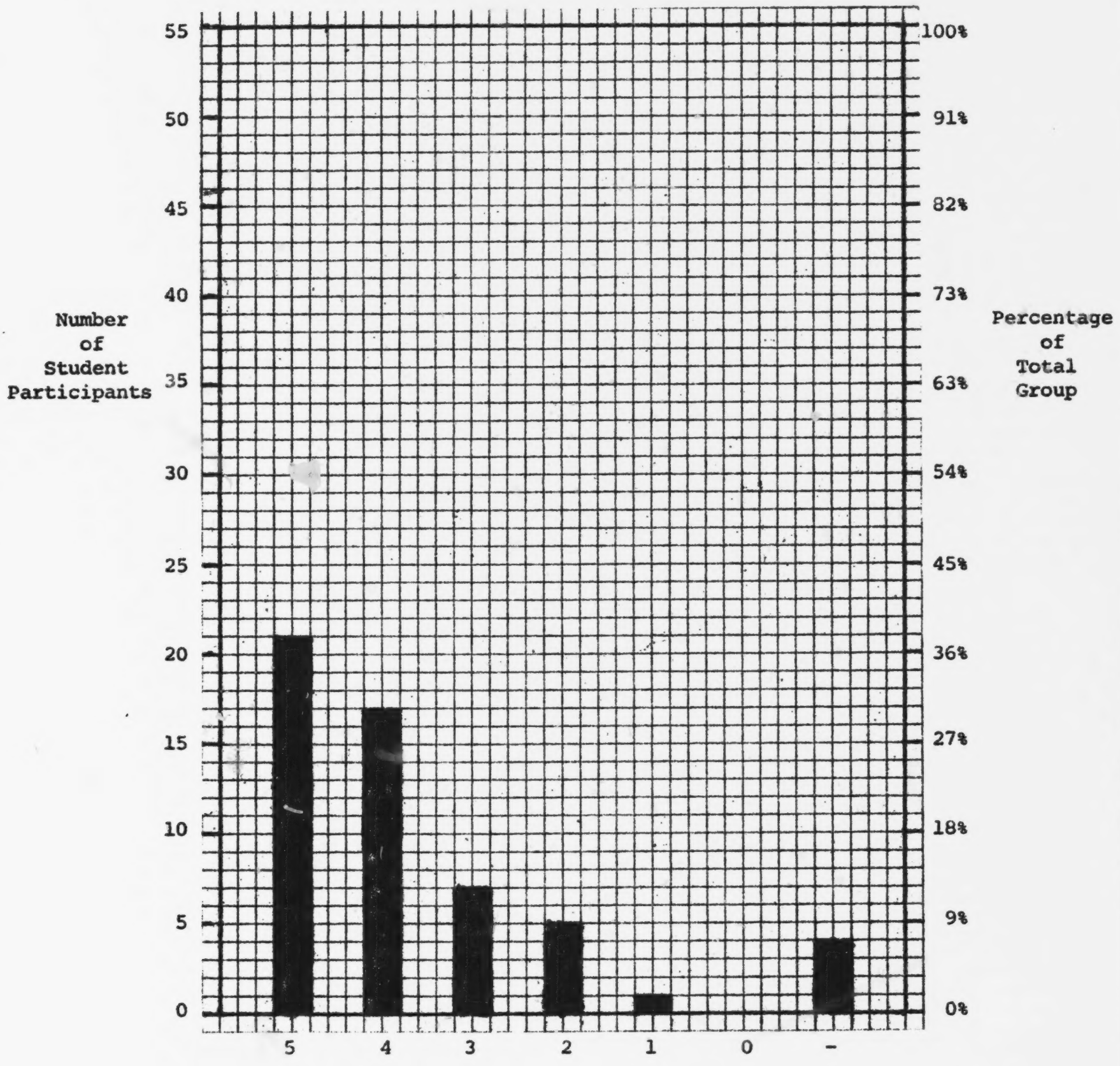
OBJECTIVE #2

Students will learn to set a magnetic compass
and follow a set direction in the outdoors



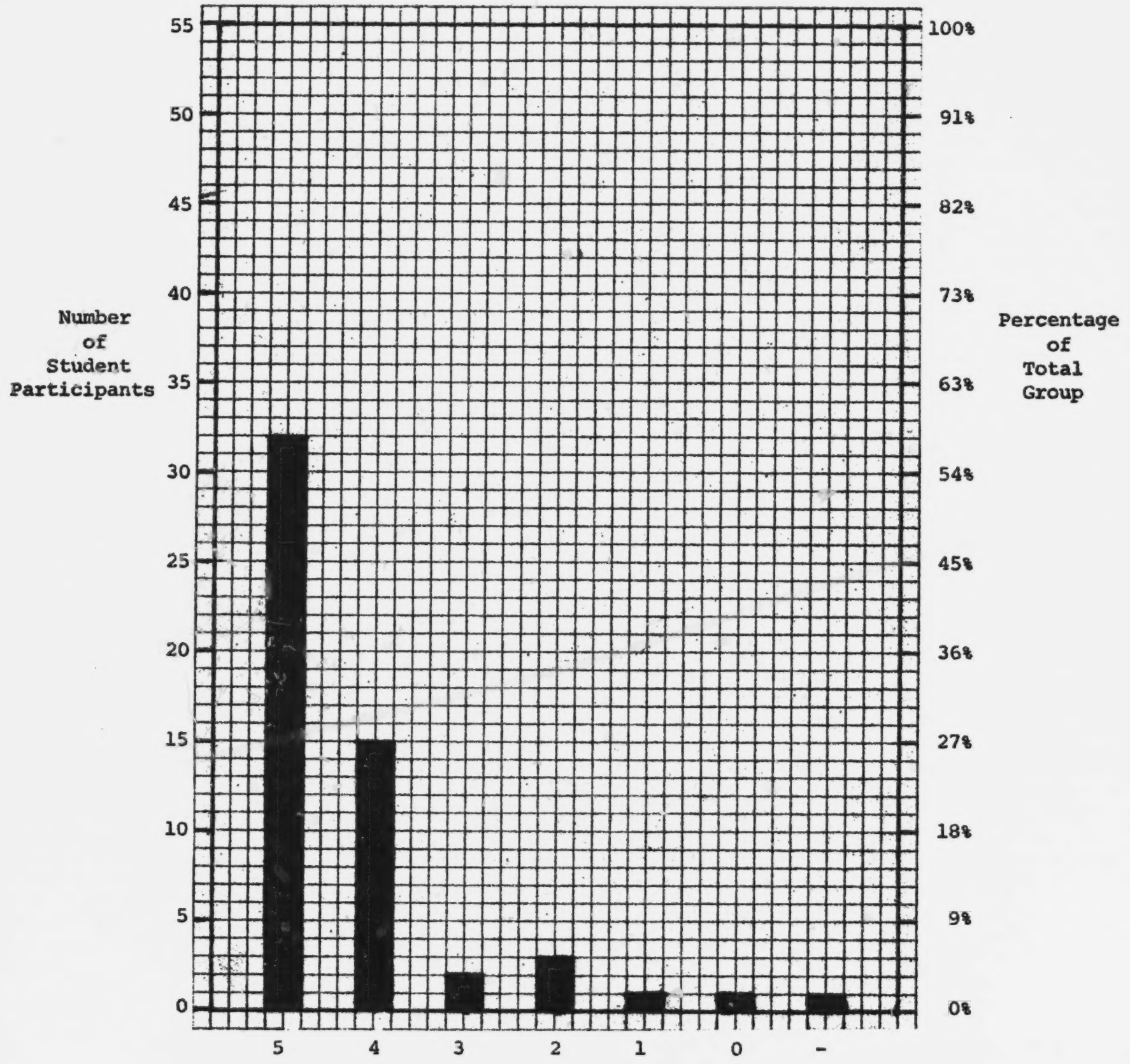
OBJECTIVE #3

Students will use a magnetic compass and topographical map to travel to a predetermined location



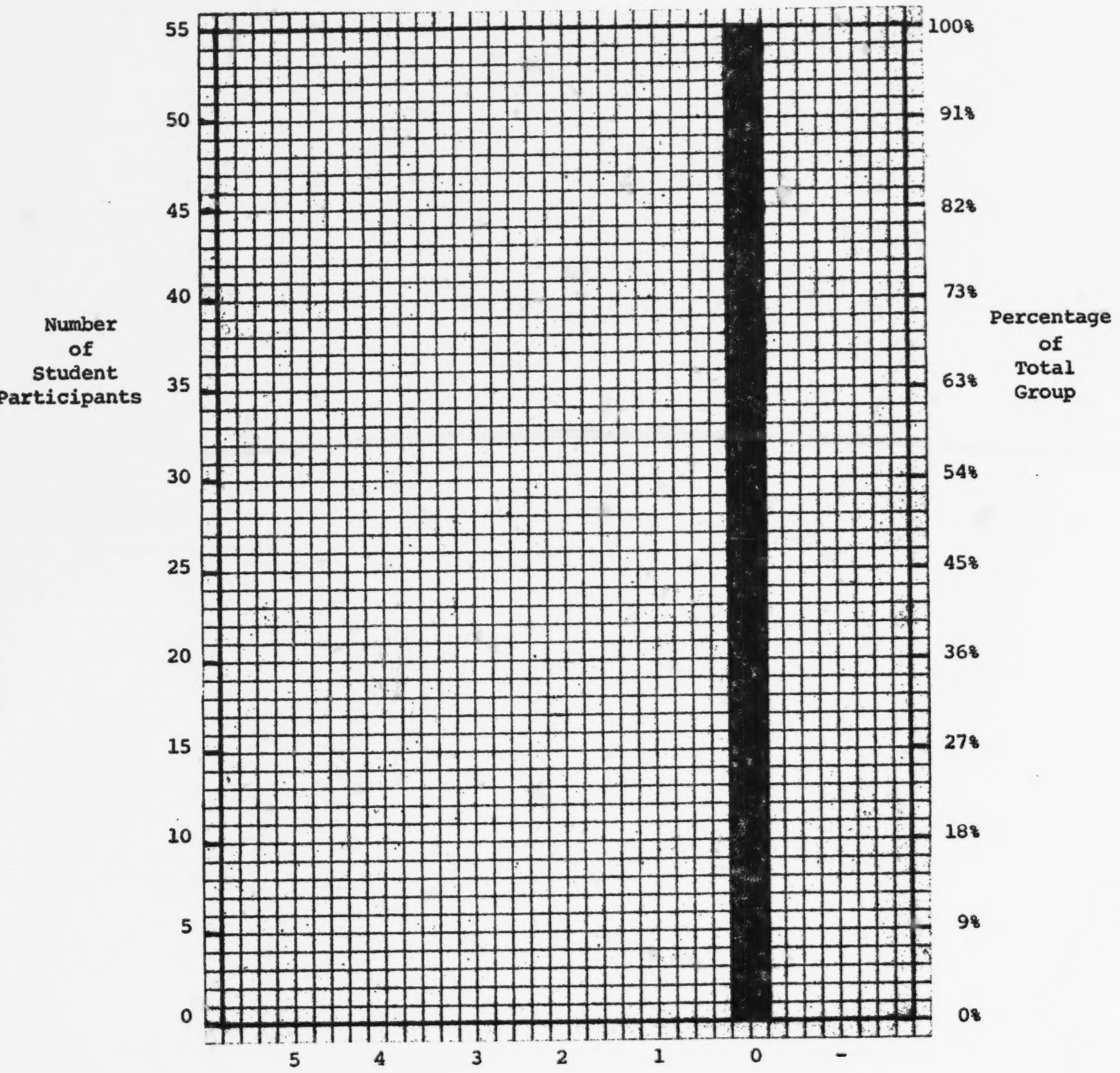
OBJECTIVE #4

Students will be able to list basic human life, support needs (e.g. food, water, shelter) and to find ways and examples to satisfy these needs in actual situations



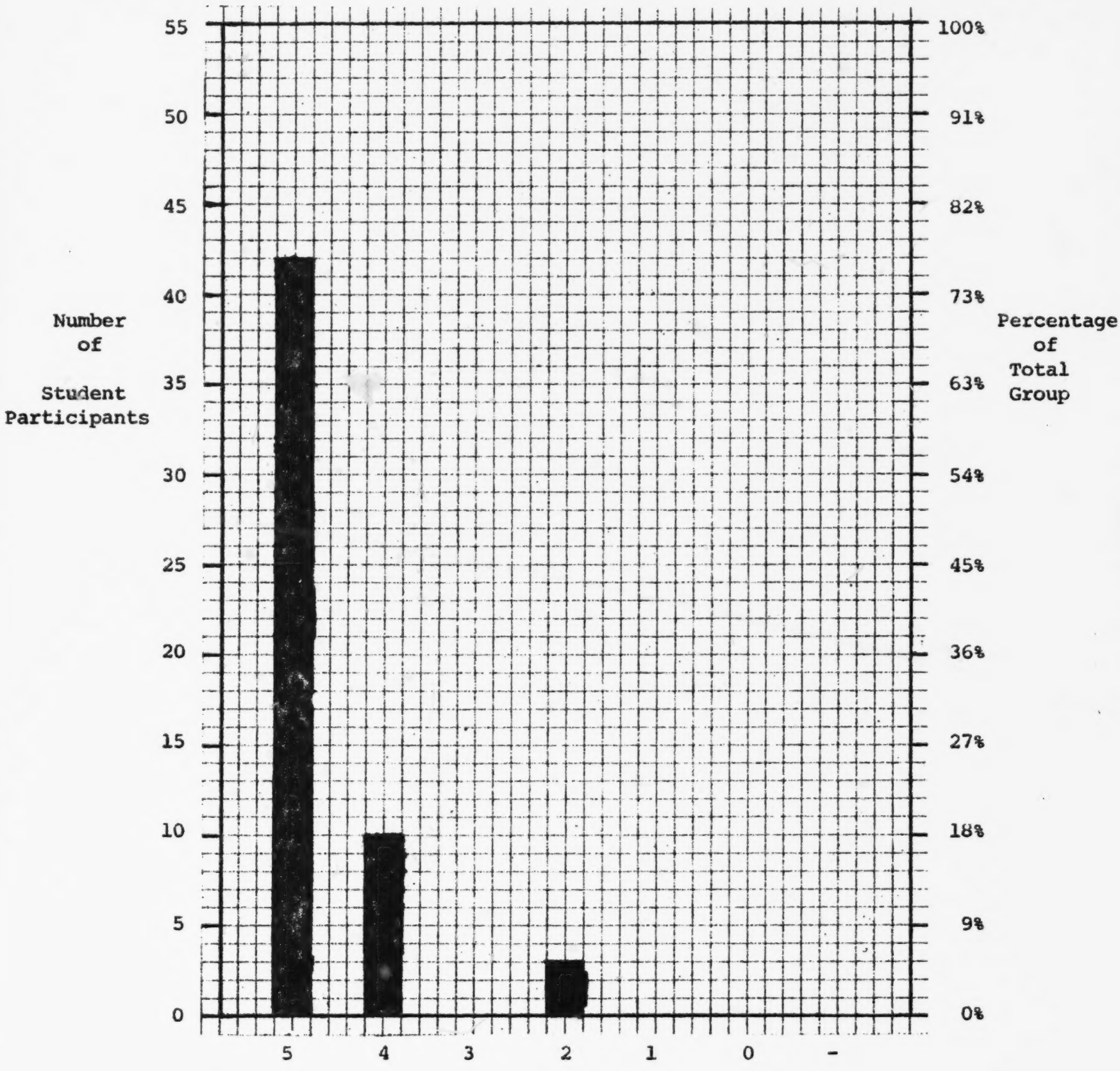
OBJECTIVE #5

Students will recognize constructive and destructive forces of nature and demonstrate knowledge through a dramatic presentation



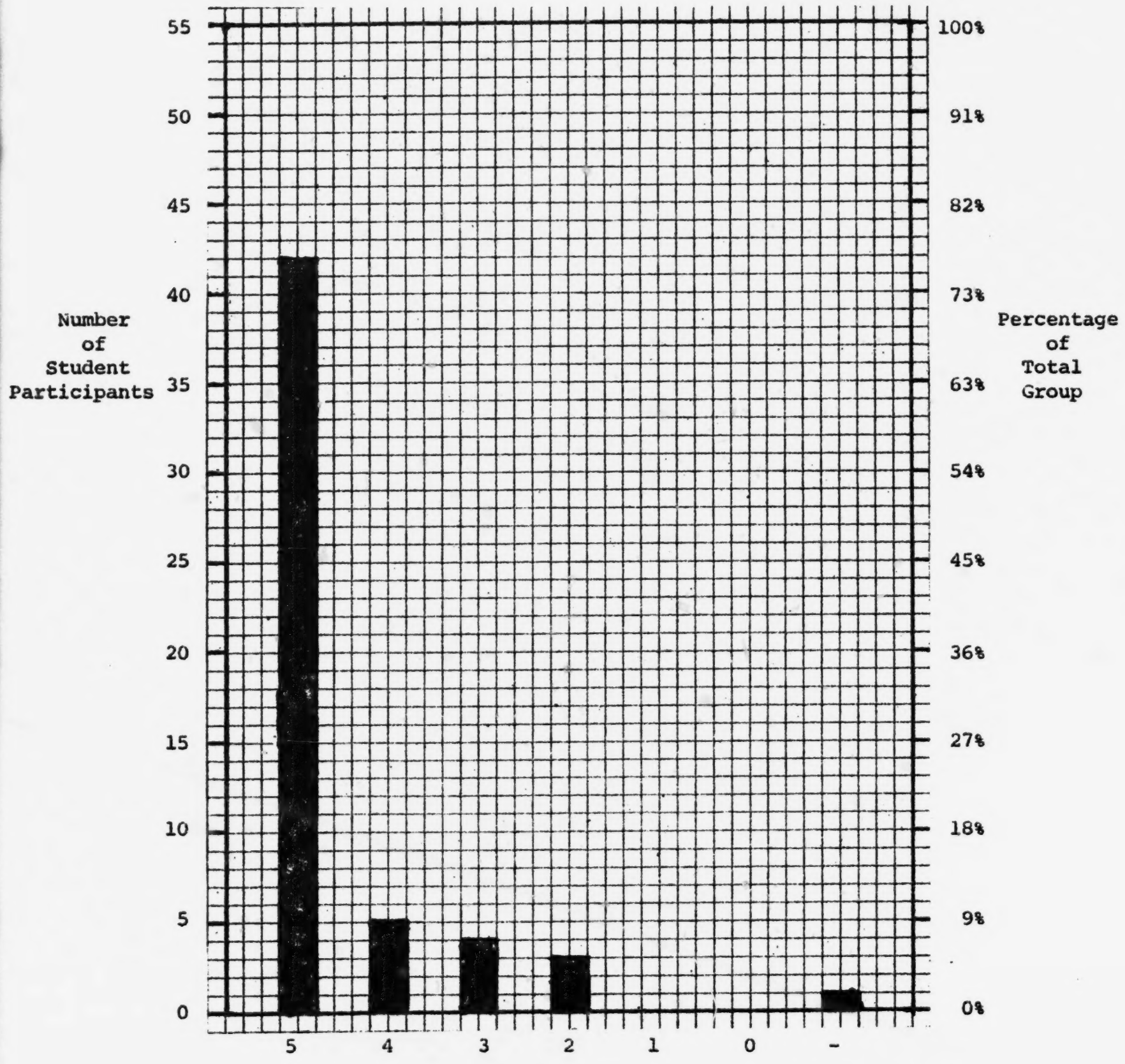
OBJECTIVE #6

Students will learn to focus a simple student microscope and study objects selected for observation



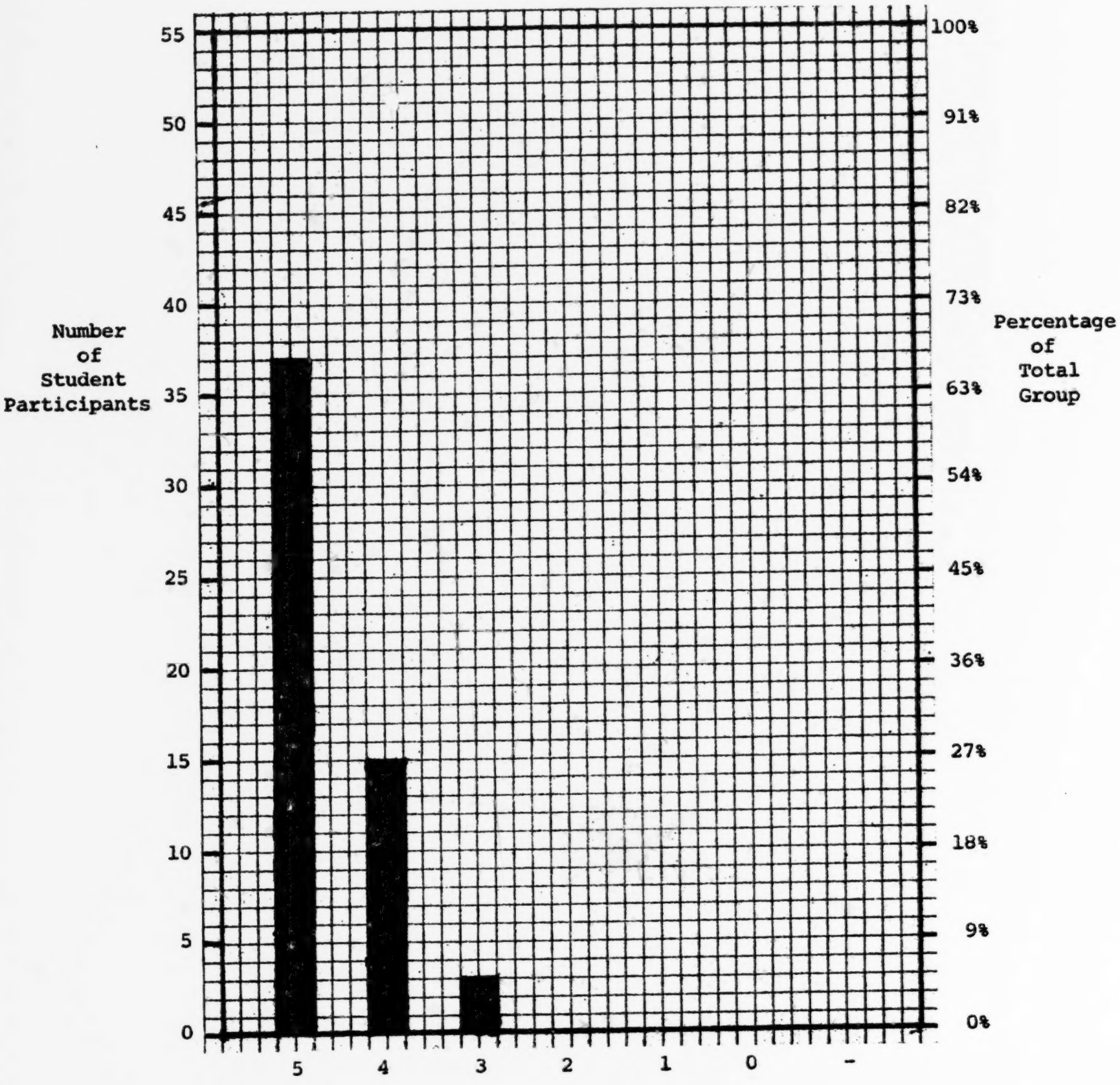
OBJECTIVE #7

Students will learn to use references to classify or verify selected data collected



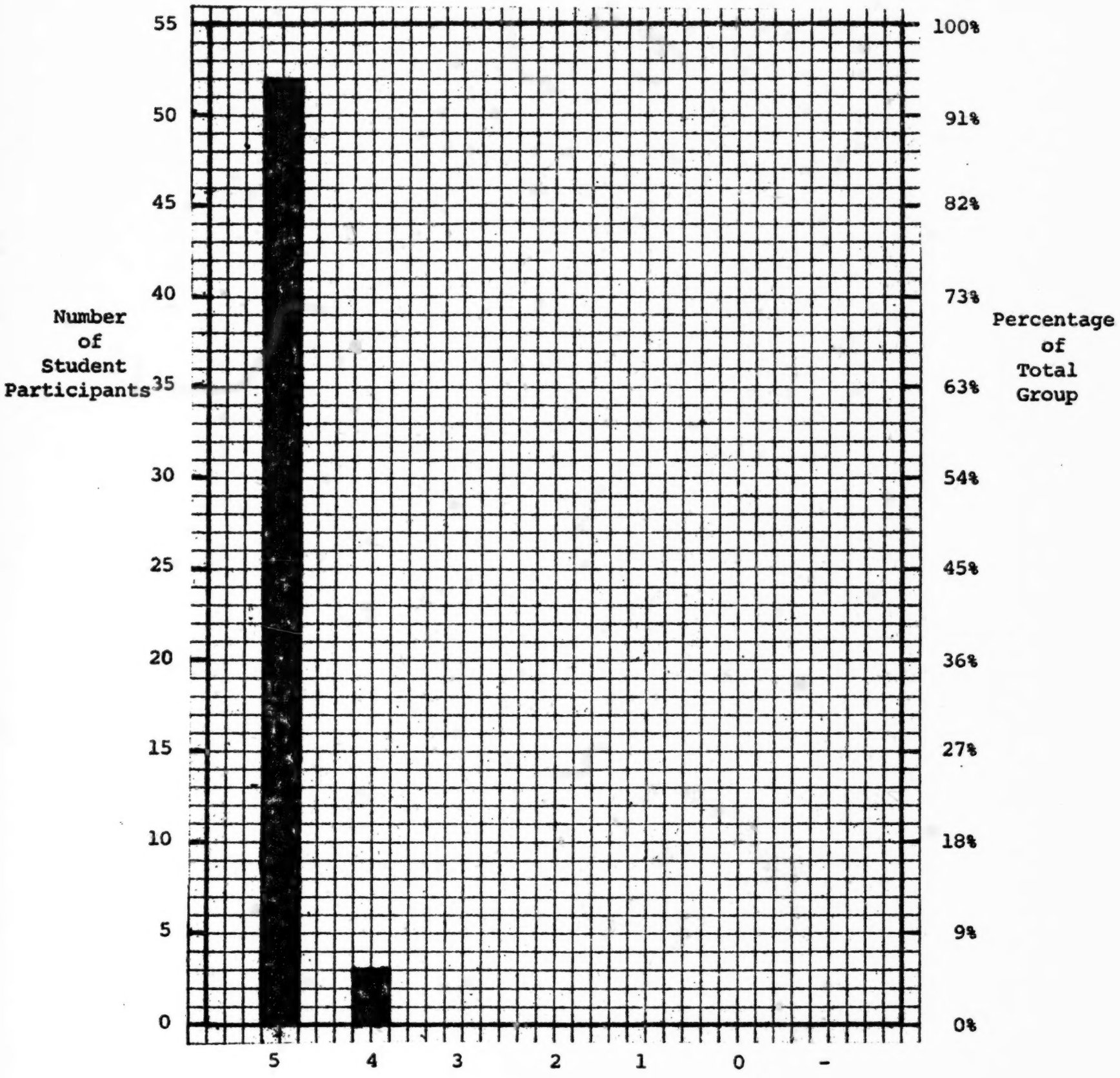
OBJECTIVE #8

Students will further develop the use of their senses
for observations and descriptions



OBJECTIVE #9

Students will learn that they can actively participate in conservation by clearing existing trails, constructing a walkway through the swamp, and placing brush piles in gullies to help prevent erosion



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EVALUATION OF ENVIRONMENTAL EDUCATION PROGRAMS

The CIPO Evaluation Instrument was developed by a committee of New Jersey Title III Environmental Education Project personnel. It is a "Systems Analysis" approach which means that evaluation is not simply the administration of a series of objective tests. Rather, it analyzes a total program beginning with the desired objectives, the ingredients, the procedures and the outcomes. The CIPO Instrument is based on the premise that just because a student scores poorly, the weakness is not necessarily with the student, but possibly can be traced somewhere else in the total educational sequence.

In order to better understand the CIPO evaluation pages, the following is provided to define the four words:

Context - This is the context which contains the goals (broad and specific) that were set for your program on the basis of the determination of needs.

Input - This is the "input," the ingredients of the program that make it work, including money, time, facilities, natural resources, materials, equipment and personnel. It is only necessary to mention the key items at this time.

Process - This is the operational plan or procedure that is used, utilizing the "resources," and describes the primary activity of your program.

Outcomes - (Result) - This is your actual or anticipated result based upon observation, testing, or other means of evaluation planned or carried out, whether or not the results are in accord with your objectives.

SCORING THE EVALUATION ITEMS

The self-rating score is based on a 0-10 scale. The project director and staff should consider the standard, and after answering the questions, should determine the extent to which the project is meeting the standards.

A score of 0-3 indicates that the standard is not being met, or being met to an insignificant degree.

A score of 4-6 indicates that the standard is being satisfied approximately half the time, or in about half of the instances.

A score of 7-10 indicates that the standard is being achieved or is being satisfied most of the time.

D-4 (b) STANDARD: Student Changes In Attitudes

Students participating in the project should show evidence of change and growth in attitudes through modifications in observable behavior.

CIPO Instrument pages used for evaluation of the 5th and 6th grade students from the Emma Havens Young School, Brick Town, N.J.

Self-rating Score_____

C	I	P	O
a. Do students gain in appreciation of the relation of natural resources to man's welfare? 55 Yes ___ No	a. Do teachers and administrators accord these attitudes high priority? 55 Yes ___ No	a. Are outdoor and indoor experiences utilized? 55 Yes ___ No	a.(1) Can students orally express their feeling towards conservation practices? 50 Yes 4 No ___ N/A 1? a.(2) Do students overtly show their concern to preserve resources for man's survival? 46 Yes 3 No 5 N/A 1? a.(3) Do students show interest in conservation projects? 54 Yes ___ No ___ N/A 1? a.(4) Do students' collections show more items from their natural environment? 52 Yes 1 No 2 N/A a.(5) Are students cognizant of man's interdependence with his environment? 1? 52 Yes 1 No 1 N/A a.(6) Do students use conservation practices and ideas as a means of achieving group status and teacher approval? 52 Yes ___ No 2 N/A 1? a.(7) Others?

D-4 (b) STANDARD: Student Changes in Attitudes (continued)

C	I	P	O
b. Do students broaden or expand their resource use ethic? 52 Yes ___ No 3 ?	b. Do teachers and administrators accord these attitudes high priority? 52 Yes ___ No 3 ?	b. Are outdoor and indoor experiences utilized? 52 Yes 1 No 2 ?	b.(1) Do students show concern for the preservation or maintenance of organisms in their environment? 50 Yes 1 No 4 N/A b.(2) Do students show concern for the conservation and management of natural resources? 53 Yes 1 No 1 N/A b.(3) Do students express an abhorance of waste and demonstrate this in classroom or other school group visitation? 34 Yes 2 No 19 N/A b.(4) Is actual waste of classroom materials decreased? 15 Yes 1 No 39 N/A b.(5) Is greater interest shown by students in life processes or or organisms and their food chains through projects, writings, art or music expression, etc.? 48 Yes ___ No 7 N/A b.(6) Others?

D-4 (b) STANDARD: Student Changes in Attitudes (continued)

C	I	P	O
c. Do students develop attitudes or feelings which will influence their use of leisure time or influence their leisure time activities? 53 Yes ___ No 2 ?	c. Do teachers and administrators accord these attitudes high priority? 53 Yes ___ No 2 ?	c. Are outdoor and indoor experiences utilized? 52 Yes ___ No 3 ?	c.(1) Do students express a desire to be out-of-doors? 53 Yes ___ No 1 N/A 1? c.(2) Do students desire physical as well as intellectual types of leisure time activities? 47 Yes 1 No 6 N/A 1? c.(3) Do students indulge in socially oriented activities? 52 Yes 2 No ___ N/A 1? c.(4) Do students develop leisure time activities in the out-doors? 33 Yes 2 No 19 N/A 1? c.(5) Do students demonstrate greater interest in studying ecology? 41 Yes 3 No 10 N/A 1? c. (6) Others? Philip has always been a loner. At CESC his social activities were broadened.

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SOCIOMETRIC TECHNIQUES FOR EVALUATION

Sociometric techniques are recommended as an evaluation technique and have significant value for identifying intra-class social changes.

The following is a brief summary of the sociogram evaluation conducted for a Willingboro school district class which participated in a resident environmental education program.

Approximately ten days before the CESC experience a sociogram form was completed by each student. The students named three students with whom they wished to be grouped for each of the activities: (a) work on a class assignment; (b) go on a field trip; (c) go to a party. A summary of the findings before and after were:

1. Major changes in the number of selections were noted for eleven students. 2 - positive changes; 9 - negative.
2. Slight changes occurred for nine students. 7 - positive; 2 - negative.
3. On first administration, before the Environmental Education experience, there were no isolates. There were six isolates the second time, after the Environmental Education experience.
4. One student highly chosen before the Environmental Education experience, became an isolate in the post Environmental Education experience.
5. Two "stars" held their own. Two "stars" dropped to the level of "underchosen."
6. One "underchosen" became a "star." One "average" became a "star."
7. One interesting observation was that two "underchosen" pupils about whom some question arose as to whether or not they would be able to attend the Center (one for financial reasons, the other for medical reasons) made the most gains in a sociometric sense while there.

The students whose selection rate changed drastically would be interesting candidates for individual case study.

Group living obviously changed the social value standards for the students. Qualities not noticed in a classroom setting became important in the situation of 24 hour togetherness. Direct quotes from pupils reaction to Mount Misery attest to this difference. One student commented: "Sleeping in the same room, you get to know people better." Another said, "We slept, ate, and lived together and found out what they were really like."

Regardless of the basic direction of the change, the important factor here is that a change in sociometric rating did occur. Something insightf occurred at Mount Misery to alter the peer status of many members of the group.